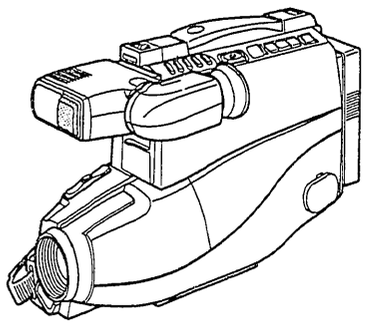
HITACHI

SERVICE MANUAL

TK | No.6407E

VM-1700A(U,C)



Manuals related to the VM-1700A

For Chapter 2 (DISASSEMBLY) and Chapter 3 (ELECTRICAL ADJUSTMENT), this service manual includes only the differences from the VM-2700A/3700A.
Use the following manual together for complete information on the VM-1700A.

Name of manual	Manual No.
VM-2700A/3700A	6402E

Refer to the following manuals for the mechanism (PCF mechanism) used in this model and the AC adaptor/charger (provided).

Name of manual	Manual No.
PCF Mechanism (Disassembly & Adjustment)	6405E
AC Adaptor/Chrager (VM-AC68A(T))	6412E

VHS

This video desk is a VHS type video recorder. For proper operation, only the VHS type cassette must be used.

SPECIFICATIONS

General

Power requirements	9.6V DC
Power consumption	7 watts (nominal)
Dimensions	4-3/8"(W) x 8-1/16"(H) x 12-1/4"(D) 111(W) x 205(H) x 311(D) mm
Weight	4.4 lbs (2.0 kg)

Video Recorder Section

Format	VHS
Record/playback system	VM-2700A: Two video record/playback heads plus a flying erase head VM-1700A: Two video record/playback heads
Video signal	EIA standard NTSC color
Tape speed	33.35 mm/sec.
Video output	1.0 Vp-p, 75 ohm
Audio output	–7.8 dBs (316 mVrms), less than 1 kohm
Fast forward/rewind time	Less than 6 minutes with T-120 cassette

Camera Section

Scanning	525 lines/60 fields/30 frames
Required minumum illumination	1 lux
Pickup device	1/3" C.C.D.
Lens diameter	46 mm

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

VIDEO CASSETTE RECORDER

April 1994 TOKAI Consumer Electronics Division

SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers'. Critical parts are marked with ⚠ in the schematic diagram.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without any danger of electrical shock.

X-RAY RADIATION

The primary source of X-ray radiation in this viewfinder is the picture tube. The tube used in this viewfinder is specially constructed to limit X-ray radiation emission. For continued X-ray radiation protection, the replacement tube must be the same type as the original, Hitachi approved one.

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COMPARISON WITH PREVIOUS MODEL

ITEM	VM-1700A	VM-2700A	VM-3700A
GENERAL			
POWER REQUIREMENTS	9.6V DC		
POWER CONSUMPTION	7 Watts		8 Watts
DIMENSIONS (W x H x D mm)	111 x 205 x 311		
WEIGHT	2.0 kg (4.4 lds)		
VIDEO RECORDER SECTION			
FORMAT	VHS		
S-VHS	No		
RECORD/PLAYBACK SYSTEM	Two video record/ playback heads	Two video record/playback heads plus a flying erase head	
VIDEO SIGNAL	EIA standard NTSC color		
TAPE SPEED	33.35 mm/sec.		
VIDEO INPUT	No		1.0Vp-p, 75 ohm
VIDEO OUTPUT	1.0Vp-p, 75 ohm		
AUDIO INPUT	No		-7.8 dBs(316mVrms)
AUDIO OUTPUT	-7.8 dBs(316mVrms)		
FAST FORWARD/REWIND TIME	Less than 6 minutes with T-120 cassette		
HEAD WHEEL	62 mm		
BASIC CHASSIS TYPE	PCF (Capstan motor cover is not provided.)		
CAMERA SECTION			
SCANNING	525 lines/60 fields/30 frame		
REQUIRED MINIMUM ILLUMINATION	1 lux		
CAMERA DEVICE	1/3" C.C.D		
LENS DIAMETER	46 mm		
ZOOM RATIO/APERTURE	12:1(5.0-60.0mm)/ F1.8		
FEATURES			
ELECTRONIC VIEWFINDER (EVF)	1/3" B/W CRT		2/3" COLOR LCD
WHITE BALANCE	AI/Fuzzy auto white balance		
INSTANT ZOOM	No		Yes (x 1.5)
ELECTRICAL ZOOM	x 24		x 36 (24 x INST. ZOOM 1.5)
AUTOFOCUS SYSTEM	VIDEO AF		
PROGRAM AE (SHUTTER SPEED)	Yes (Program AE only)		
FADE	No		Yes
MANUAL/AUTOMATIC FOCUS	Automatic mode only		Selective
TITLER	Yes		
TIME LAPSE/ONE SHOT/ SELF TIMER RECORDING	No		
DC LIGHT	No	Built-in	
WIND SWITCH	No (Automatic Compensate.)		
MIC MIX SWITCH	No		
AV OUTPUT/INPUT JACK	US-pin jack (Output only)		US-pin jack (Input/Output selective)
EXT. MICROPHONE JACK	No		
EARPHONE (HEAD PHONE) JACK	No		
ACCESSORIES			
BATTERY PACK	VM-BP66		VM-BP67
AC ADAPTER/CHARGER	VM-AC68A(T)		
AV OUTPUT CABLE	No		Parts No. 5856024

COMPARISON OF MAIN CONTROL ICs

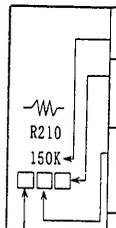
ITEM	VM-1700A	VM-2700A	VM-3700A
SENSOR/PROCESS			
CCD SENSOR	IC1051 (MN3716MFE)		
CDS/AGC (Pre Process)	IC1101 (HA118184F)		
A/D CONVERTER	IC1102 (HD49319F)		
DIGITAL PROCESS	IC1103 (HG51B0151F)		
E ZOOM μP (ELE. ZOOM)	IC1104 (HG51B139FG)		
DRIVE PULSE GENERATOR	IC1105 (μPD16508GB)		
D-μP (Digital μP)	IC1106 (HD6433378F10)		
EE ROM	IC1107 (S2939GIF10G)		
5V REGULATOR	IC1108 (RH5RA52A)		
BUFFER	IC1112 (HD74HC125)		
RESET	IC1113 (RN5VT28AA)		
3.5V REGULATOR	IC1116 (RH5RA35A)		
AUTOFOCUS/IRIS			
AF μP(Autofocus μP)	IC1301 (μPD78054)		
ZOOM MOTOR DRIVER	IC1302 (XPC17A85VM)		
FOCUS MOTOR DRIVER	IC1303 (XCP17A85VM)		
INVERTER	IC1308 (SN74HT04AD8)		
BUFFER	IC1309 (HD74HCT125)		
IRIS DRIVER	IC1401 (NJM3414M)		
AMPLIFIER	IC1402 (NJM3403A)		
SWITCH	IC1403 (TC4W66F)		
ELECTRONIC VIEWFINDER (EVF)			
VIDEO AMP/VERTICAL. HORIZONTAL DEFLECTION	IC2001 (HA118121)		———
VIDEO PROCESS	———		IC2101 (IR3Y18)
PWM	———		IC2181 (FA7610N)
PULSE CONTROL	———		IC2202 (ETM3030T0A)
SYSTEM CONTROL/TROUBLE SENSOR			
SYSTEM CONTROL μP	IC901 (HD6473724H)		
REGILATOR/VOLTAGE DETECTOR	IC902 (S84206F)		
CHARACTER GENERATOR	IC903 (XLU5949FS)		
MOTOR DRIVE	IC904 (BA6417F)		
INVERTER	IC905 (TC4SU69F)		
SWITCHING REGULATOR			
SWITCHING REGULATOR	IC501 (BA9706K)		
SERVO			
SERVO CONTROL	IC601 (HD49781AF)		
CYLINDER MOTOR DRIVE	IC602 (XRA6459P)		
CAPSTAN MOTOR DRIVE	IC1M (LB1851)		
LUMA/CHROMA (PRE-AMP)			
LUMA/CHROMA PROCESS	IC201 (HA118186)		
1H DELAY	IC202 (MSM7458MS)		
VIDEO HEAD AMP	IC203 (HA118041)		
SYNC SEPARATOR (VIDEO AMP/SYNC SEPARATOR)	IC204 (BA7046F)		
AUDIO			
AUDIO PROCESS	IC401 (XRA7757B)		

WHEN USING THIS SERVICE REFERENCE MATERIAL

1. How to Read Abbreviations

Values, dielectric resistances (power capacitances), tolerances, grades of resistors (excluding variable resistors, etc.) and capacitors are indicated in the schematic diagrams using abbreviations. Collate these abbreviations and the following tables to read abbreviations and replace parts correctly.

[RESISTORS]

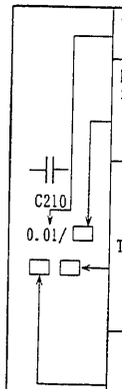


Value	No indication ····· ohm K ····· kohm	
Tolerance	No indication ····· ± 5% K ····· ±10% M ····· ±20%	
Power capacitance	No indication ····· 1/8W (All capacitances other than 1/8W are indicated in schematic diagrams with W omitted.)	
Type	No indication ·· Carbon film fixed RC ····· Carbon solid RW ····· Power-type wire wound solid RS ····· Metal oxide film solid RN ····· Metal film solid	

Example

R210
150K ····· 150 kohm, carbon solid
RC.1/2.K 1/2W, ±10%

[CAPACITORS]



Value	No indication ····· μF P ····· PF	
Dielectric resistance	No indication ····· 50WV (All resistances other than 50WV and those of electrolytic capacitors are indicated with WV omitted.)	
Tolerances	No indication ····· ±10% J ····· ± 5% M ····· ±20% C ····· ±0.25PF Z ····· +80%-20% (No indication for electrolytic capacitors. (excluding tantalum and high stability electrolytic capacitors.)	
Type	No indication ··· Ceramic, general electrolytic (see circuit symbol to distinguish from ceramic.) MYL ····· Mylar (Polyester film) STY ····· Styrol TA ····· Tantalum KU ····· High stability electrolytic MP ····· Metallized paper	

Example

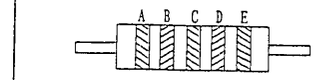
C210
0.01/25 ····· Mylar, 0.01 μF, 25WV
MYL.J ±5%

2. Markings in Schematic and Circuit Board Diagrams

(1) Parts with marks "■" attached to circuit numbers in the schematic and circuit board diagrams are discrete components.
(2) Parts with marks "●" attached to circuit numbers in the schematic and circuit board diagrams are chip components.
(3) Parts with marks Ⓩ in the circuit board diagrams are leadless jumpers.

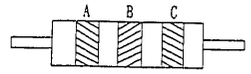
3. How to Read Capacitance of Resistance-Type Capacitors and Coils

[CAPACITOR]



CAPACITY : (10A+B)×C (PF)
TOLERANCE : D
RATED VOLTAGE : BODY COLOR
PINK : 25V
GREEN : 50V
CHARACTERISTICS : E

[COIL]



INDUCTANCE : (10A+B)×C (μH)

COLOR	A, B	C	D	E
Black	0	10^0	±20%	For temperature compensation
Brown	1	10^1		
Red	2	10^2		
Orange	3	10^3		
Yellow	4	10^4		
Green	5	10^5		
Blue	6			
Violet	7			
Gray	8		±30%	High dielectric constant type
White	9			For temperature compensation
Gold		10^{-1}	± 5%	
Silver		10^{-2}	±10%	High dielectric constant type

4. Cautions on Use of MOS ICs

(1) MOS ICs are inserted in black foam for shipment. This foam is a conductor which short-circuits between the leads to prevent damage. Do not remove ICs from this foam during storage. Avoid removing ICs from this foam, placing them on plastic which is likely to be charged with static electricity or inserting them into styrol foam.
(2) High voltages may be applied during soldering caused by leakages from the soldering iron. Be sure to ground the tip of the soldering iron or use a low voltage soldering iron.
(3) The human body and clothes made of synthetic fiber or nylon gloves may be charged with several thousand volts of static electricity because of friction. Workers should be grounded.

SERVICE MANUAL ABBREVIATION LIST

A	
ACC	Automatic Color Control
ACK	Automatic Color Killer
ADC B-Y	Analog to Digital Converted B-Y Signal
ADC R-Y	Analog to Digital Converted R-Y Signal
ADC Y	Analog to Digital Converted Luminance
ADD	Adder
ADRS	Address
A.DUB	Audio Dubbing
AF	Autofocus
AFC	Automatic Frequency Control
AGC	Automatic Gain Control
AGC KILLER	AGC Killer Voltage
ALC	Automatic Level Control
AIC	Automatic Iris Control
AM	Amplitude Modulation
AMP	Amplifier
APC	Automatic Phase Control
ASBL	Assemble (Phase Matching)
AUD.	Audio
AUX	Auxiliary
A5V	Always 5V B+ Source

B	
B (BLU)	Color Signal BLUE
BATT.	Battery
BF	Burst Flag
BG	Burst Gate or Back Ground
BGP	Burst Gate Pulse
BH	Power Supply for Selecting VHF High Band
BL	Power Supply for Selecting VHF Low Band
BLK	Blanking
BM	Power Supply for Selecting VHF Mid Band
BPF	Bandpass Filter
BS	Power Supply for Selecting VHF Super Band
BU	Power Supply for Selecting UHF Band
BU	Back-up
BUF.	Buffer Amplifier
B-YL	Battery

C	
C	Chroma
C (CHROMA)	Chrominance Signal
CAPST.	Capstan
CAS	Column Address Strobe
CARRI.	Carrier
CATV	Cable TV
C.BLANK	Chroma Blanking
C.BLK	Composite Blanking
CCD	Charge Coupled Device
CG	Character Generator
C.FG/CFG	Capstan Frequency Generater
C.FREE RUN	Chapstan Free Run
CH	Channel
CHD	Camera Horizontal Drive Pulse
CHAR.	Character
CHROMA	Chrominance
C.MEMORY	Counter Memory
CNR	Chroma Noise Reducer
COM.	Common
COM.	Composite
COMPA	Comparator
COMPE	Compensator
COMPO	Composite
COMP-EXP	Compressor-Expander
CONV.	Converter
CONT	Control
CORR.	Correlation
COUNT.	Counter
CP	Clamp Pulse
C.PAUSE	Camera Pause
C/R	Capacitor/Resistor
C.RESET	Counter Reset
C.REVERSE	Count Reverse
CST	Cassette

C	
C.SYNC	Composite Synchronizing Signal
CTL	Control Track Pulse (Control)
CYL	Cylinder
CY (CYAN)	Color Signal CYAN

D	
DA	Double Azimuth
D/A	Digital to Analog Converter
D-D	Direct Drive
DEEMPHA.	Deemphasis
DEF	Deflection
DEMOD.	Demodulator
DEMPX	Demultiplexer
DET	Detector
DIFF. AMP	Differential Amplifier
DISCRI.	Discriminator
DISP.	Display
DL	Delay Line
DN	Down
DO	Dropout
DOC	Dropout Compensator
DRAM	Dynamic Random Access Memory
D.REF 25/30	Delayed Reference 25/30Hz
D.SW 25/30	Delayed Switching 25/30Hz
DSP	Digital Signal Processor
DT/OE	Data Transfer/Output Enable
D/W	Dark/White
DWC	Delayed Write Clock

E	
EA-ROM	Electrically Alterable Read Only Memory
E-E	Electronic-to-Electronic
EMPHA.	Emphasis
EQ	Equalizer
EVF	Electronic Viewfinder
EXT.	External

F	
F.ADV	Frame Advance
F/V	Frequency-to-Voltage Converter
FB	Feed Back
FF	Flip Flop
F.FWD	Fast Forward
FG	Frequency Generator
FM	Frequency Modulation
FREQ.	Frequency
FRAME ADV	Frame Advance
Fsc	Color Sub Carrier Frequency
FWD	Forward

G	
GEN	Generator
GND	Ground

H	
H	Horizontal
HBF	Horizontal Burst Flag
HD	Horizontal Drive
Hi-Fi	High Fidelity
HLT	Halt
HPF	High-pass Filter
HPL	High-pass Limiter
HSS	Horizontal Sync. Separator

I	
IF	Intermediate Frequency
INC	Row Counter Increment
INDI.	Indicator
INT.	Internal
INV.	Inverter
I/O	In/Out (Input/Output)
IR	Infrared Rays
IRIS DET	Iris Detection
IRT	Instant Recording Timer

L	
LCD	Liquid Crystal Display
LIN.	Linear
LM	Loading Motor

L	
LNC	Line Noise Canceller
LOG	Logarithm
LP	Long Play
LP (H)	Long Play Signal (Active High)
LPF	Low-pass Filter
LUMA	Luminance
L/R	Left/Right

M	
MAN	Manual
M.BRAKE	Main Brake
M.CUT	Monitor Cut
MEM.	Memory
MEM ON	Memory ON
MEM SW	Memory Switch
MEM VIDEO	Memorized Video
MIX	Mixer
MMV	Monostable Multivibrator
MOD.	Modulator
MPX	Multiplex
MPX VIDEO	Multiplexed Video
M.STATE	Mechanism State
M.STOP	Memory Stop
MTS	Multi Channel Television Sound

N	
NEG	Negative
NFB	Negative Feed Back
NORM. or NOR.	Normal
NR	Noise Reduction

O	
OB	Optical Black
O/E	Odd/Even Field
OSC	Oscillator
OSD	On-Screen Display

P	
PB/PLAY	Playback
P.CONT	Power Control
PIF	Picture Intermediate Frequency
PG	Pulse Generator
P IN P	Picture in Picture
PIX MOVE	Picture Move
PLL	Phase Locked Loop
POS.	Positive
POWER CONT.	Power Control
PROG.	Program
PROTECT.	Protector
PWM	Pulse Width Modulation

R	
R (RED)	Color Signal RED
RAM	Random Access Memory
RAS	Row Address Strobe
RC	Reading Clock
RCC	Reading Clock Clear
RCR	Row Counter Reset
REC	Record
RECT.	Rectifier
REF	Reference
REF 25/30	Reference 25/30Hz from servo circuit
REG	Regulator
REL	Refresh Control
REW	Rewind
REV	Reverse
RF	Radio Frequency
RM	Reel Motor
ROM	Read Only Memory
R-YL	Color Difference Signal R-YL

S	
SAP	Second Audio Program
SAW	Sawtooth
SC	Serial Control
SC1 (0°)	3.58MHz Subcarrier Signal 1 (0-degree Phase Shifted)
SC2 (90°)	3.58MHz Subcarrier Signal 2 (90-degree Phase Shifted)
SEP.	Separator
SG	Signal Generator
S/H	Sample and Hold
SIF	Sound Intermediate Frequency
SOL	Solenoid
SP	Standard Play
SP/LP	Standard Play/Long Play
S.REEL	Supply Reel Sensor
SRCH	Search
SRV	Servo
STABI.	Stabilizer
S.TRACK	Slow Tracking
STBY	Standby Mode
S-VHS	Super VHS
SW 15Hz	15Hz Head Switching Pulse
SW 25/30Hz	25/30Hz Head Switching Pulse
SYNC	Synchronizing signal
SYS.CON	System Control

T	
T (TELE)	Telephoto Angle
T.BRAKE	Take-up Brake
T/L	Tuner/Line
TP	Test Point
T.REEL	Take-up Reel Sensor
T.RESET	Timer Reset
TRS	Transfer
TμP	Timer Microprocessor
TU-μP	Tuning Microprocessor

U	
U/D	Up/Down
UNI.	Unified

V	
V (VERT)	Vertical
VAR	Variable
V.AGC	AGC Voltage
VCA	Voltage Controlled Amplitier
VCO	Voltage Controlled Oscillator
V.DRV	Vertical Drive Pulse
V.DUB	Video Dubbing
V/F	Voltage to Frequency Converter
VHS	Video Home System
VF	Focus Voltage
VOL.	Volume
V-REF	Voltage Reference
VP	Vertical Pulse
VSS	Vertical Sync. Separator
Vss	Voltage Super Source
VT	Tuning Voltage
VT-U	Tuning Voltage-UHF
VT-V	Tuning Voltage-VHF
VCXO	Voltage Controlled Crystal Oscillator

W	
WC	Write Clock
WCC	Write Clock Clear
WE	Weighting
WHT	Color Signal WHITE
WIDE	Wide Angle
WHD	Wide Horizontal Drive
WHT BAL CONT.	White Balance Control

Y	
Y	Luminance Signal
Y/C	Luminance/Chrominance
YE (YEL)	Color Singal YELLOW
YL	Luminance Signal (Low Component)

ANOTHER	
μP	Microprocessor
5V	ON 5V B+ Source
9V	ON 9V B+ Source

LEADLESS (CHIP) COMPONENT IDENTIFICATION

1. Leadless Transistor

The part name of a leadless transistor is indicated by a code on its surface, using one letter, one letter and one numeral, two letters, two letters and one numeral, two numerals, two numerals and one letter, three letters, or four letters.

Note: There are transistors with the same code but differnt part names, or with the same part name but different codes. Refer to the parts lists to finally identify a transistor.

CODE	PART NAME	CODE	PART NAME
Leadless (Chip) Transistor			
3925	2SC3925	BR	2SC2412K
1CQ	2SB902	BR	2SC4617
1D	2SC3127	BS	2SC2412K
1DS	2SD1328S	C-7	2SA811
1DT	2SD1328	C1G	KSC1623
1R	2SB970TX	CB	2SC3646
2BQ	2SK374PQ	CC	2SA1122C
2BR	2SK374QR	CC	2SC3647T
2Y	2SC2757	CC	2SC3647
2YQ	2SC4691	CD	2SA1122D
3N	2SK620	CE	2SA1122E
4N	XN5601	CK	2SD999
4Q	XN1B301	CP	2SC4097
4R	XN1C301	CQ	2SC2411K
5C	XN4601	CR	2SB710
5C	XP4601	CR	2SC2411
5H	XP4501	CR	2SB1219
5H	XN4501	D16	2SC1622A
5K	XP4401	D17	2SC1622A
5K	XN4401	D18	2SC1622A
5L	XN5501	DB	2SD1766
5N	XN6501	DE	2SC2463
5O	XN6401	DF	2SD1623
5R	XP1501	DF	2SD1898
5R	XN1501	DG	2SD1624
5S	XN1504	DK	2SB798
5V	XN1401	EC	2SA1022
5W	XN2501	F-2	2SC1009F2
5X	XN4504	F-3	2SC1009F3
7R	XN2401	F-4	2SC1009F4
7S	XN1601	FC	2SC2619
AA	2SD1757K	FR	2SA1774
AKQ	2SA1738	FR	2SA1037K
AKQ	2SA1806	FR	2SA1576R
AL	2SA1791	FS	2SA1037K
AM	2SC4656	GC	2SC2734
AO	2SB709AQR	GM	3SD1615
AQ	2SB709AQ	HQ	2SA1036K
AQ	2SB766	IC	2SC3016
AR	2SB1462	IRD	2SA1484
AR	2SB766	IS	2SB792S
AR	2SB709ARS	IT	2SB792T
AR	ASB1218R	L-4	2SC1623L4
AS	2SB766	L-5	2SC1623L5
AS	2SB709AS	L-6	2SC1623L6
B3	2SC1621B3	L-6	2SC2812L6
B4	2SC1621B4	L-7	2SC2812L7
BC	2SB1188	L5	MMBC1623L5
BD	2SB1121	L6	MMBC1623L6
BE	2SB1260	LB	2SC2462B
BF	2SB1123	LC	2SC2462C
BF	2SB1308	LD	2SC2462D
BG	2SB1124	LR	2SC2412KLN
BH	2SB1001	M-5	2SA812
BQ	2SB709A	M-6	2SA1179
BR	2SC4081R	MC	2SA1052MC

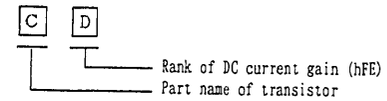
CODE	PART NAME	CODE	PART NAME
Leadless (Chip) Transistor			
MD	2SA1052MC-D	ZS	2SD874S
N3	2SC1653	VR	2SD968A
ND	2SD1306ND	W1	FMW1
NE	2SD1306NE	W10	FMW10
PD	2SA1171D	W2	FMW2
PS	2SD814	W3	FMW3
QB	2SC2620QB	WR	2SD602
QC	2SC2620QC	X1	UMX1
QO	2SC2714	X1	IMX1
R22	2SC4226	X2	IMX2
R22	2SC3356	Y1	FMY1
R32	2SC4227	Y12	2SA1464
R34	2SC3583	Y25	NTM3906
R42	2SC3585	Y3	FMY3
RB	2SC2618RB	YCD	2SK197
RC	2SC2618RC	YI	2SA1666
RK	2SC3357	YQ	2SD601YQ
S1	FMS1	YR	2SD601YR
S2	FMS2	YR	2SD1819R
SC	2SA1121	YR	2SD2216
SO	2SA1162	YS	2SD601YS
SP	2SC3082K	Z1	IMZ1
T1	IMT1	Z2	IMZ2
T1	UMT1	ZO	2SD874T
T2	IMT2	ZQ	2SD601A
UD	2SC2404	ZR	2SD874R
Digital Transistor			
3	DTC143TK	6C	UN9113
4	DTC114TK	6S	XP4113
6	DTC144TK	8B	UN5212
13	DTA143EK	8C	UN9213
14	DTA144EK	8C	UN2213
15	DTA124K	8S	XP4213
15	DTA124EU	9L	XP1213
16	DTA144EU	9L	XN1213
16	XDA144EK	A1	FMA1
16	DTA144EE	A1	UMA1
23	DTC143EK	A2	FMA2
24	DTC114EU	B2	UMB2
24	DTC144EK	B2	IMB2
25	DTC124EU	C2	FMC2
25	DTC124K	C5	FMC5
26	DTC144EE	D2	IMD2
26	DTC144EU	F52	DTB123
26	XDC144EK	G1	FMG1
33	DTA143XK	G2	FMG2
43	DTC143XK	G21	DTD113ZK
52	DTA123YK	G5	FMG5
60	UN511F	H03	DTC343TK
64	DTC114YK	H2	IMH2
80	UN521F	H2	UNH2
4P	XN1A312T	H27	DTC363EK
6B	UN5112	R04	KSR1104
6C	UN2113	R31	FP1L2Q
FET			
30	2SK621	WS	2SK322T
1FQ	2SK321FQ	WT	2SK322T
1FR	2SK321FQR	X15	2SK425
1KP	2SK316	X4	2SK94
2BQ	2SK663	XAF	2SK980FG
DY	2SK1579	YC	2SK197YC
JO	2SK208	YD	2SK197YD
K	3SK166	YE	2SK197YE
K4	2SK160K4	ZD	2SK217ZD
K5	2SK160K5	ZE	2SK217ZE
KB	2SK323		

(1) Identification with two letters

Use this code and the following chart for transistor identification.

Example :

Code	Part name
CD	2SA1122D
LD	2SC2462D

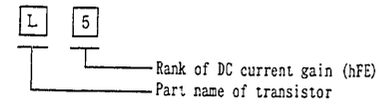


(2) Identification with one letter and one numeral

Use this code and the following chart for transistor identification.

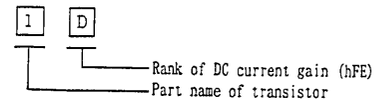
Example :

Code	Part name
L5	2SC1623(5)
L6	2SC1623(6)



Example :

Code	Part name
1D	2SC3127D



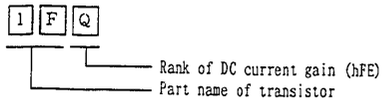
Note: Codes S1,S2,T1,W1,W2,W3,X1,Y1,Y3,Z1 and Z2 encode only the part names.

(3) Identification with one numeral and two letters

Use this code and the following chart for tarnsistor identification.

Example :

Code	Part name
1FQ	2SK321Q

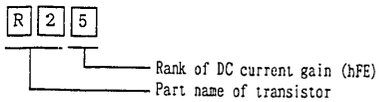


(4) Identification with one letter and two numerals

Use this code and the following chart for transistor identificaion.

Example :

Code	Part name
R25	25C3356

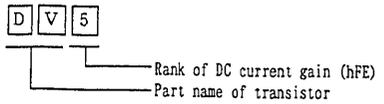


(5) Identification with to letters and one numeral

Use this code and the following chart for transistor identification.

Example :

Code	Part name
DV5	2SD596

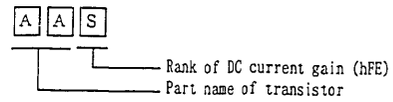


(6) Identification with three letters

Use this code and the following chart for transistor identification.

Example :

Code	Part name
AAS	2SD1757KS



2. Leadless Diode

The part name of a leadless diode is indicated by a code on the surface, using one letter and one numeral, two letters, two letters and one numeral, two numerals and one letter, or three numerals. Use this code and the following table to identify the part name of a diode.

Note: Refer to the parts lists to finally identify a diode.

CODE	PART NAME	CODE	PART NAME
Diode			
0	HVU300A	3D	RB715F
1.0	1SV201	3.0L	MA3030L
2.0	MA3020	3.6L	MA3036L
5.1	MA3051L	3.9L	MA3039L
5.1	MA3051M	4.3H	MA3043H
6.8	MA3068	4.3L	MA3043L
6.8	MA3068M	4.3M	MA3043M
7.5	MA3075L	4.7L	MA3047L
8.2	MA3082M	4.7M	MA3047M
9.1	MA3091	5.1H	MA3051H
20	HZM6	5.1L	MA3051L
24	1SV221	5.1M	MA3051M
27	RD2.7M B	5.6M	MA3056M
30	RD3.0M B	6.2L	MA3062L
51	RD5.1M B2	6.2M	MA3062M
56	RD5.6M B	6.8H	MA3068H
91	RD9.1M B	6.8L	MA3068L
102	RD10M B2	6.8M	MA3068M
122	RD12M B2	6.8M	MA3068
163	RD16M B3	7.5H	MA3075H
182	RD10M B2	7.5L	MA3075L
271	RD2.7M B	8A	UN221D
272	D2.7M B2	8.2H	MA3082H
301	RD3.0M B	8.2M	MA3082M
362	D3.6M B2	9.1M	MA3091M
391	D3.9M B1	9.1M	MA3091
512	RD5.1M B2	10L	MA3100L
561	RD5.6M B	10M	MA3100M
621	RD6.2M B1	11L	MA3110L
681	RD6.8M	12M	MA3120M
683	RD6.8M B3	13H	MA3130H
911	RD9.1M B	18M	MA3180M
2.7H	MA3027H	36M	MA3360
Zener Diode			
1A	MA110	M3A	MA199
A3	1S2835	MC	MA153
A4	HSM2836C	MC	MA143
A5	1S2837	MH	MA141K
A6	HSM2838C	MH	MA151K

CODE	PART NAME	CODE	PART NAME
Zener Diode			
B	SB0505CP	MH	MA152K
B64	SFPB64	MI	MA132K
B74	SFPB74	MN	MA141WA
BE	1SV172	MN	MA152WK
C1	HSM88S	MN	MA151WA
C2	HSM276S	MO	MA132WA
C3	1SS226	MO	MA152WA
C4	HSM88WK	MP	MA133
F7	KV1470	MT	MA151WK
H5	HVM14	MT	MA141WK
J	SB07-03C	MU	MA132WK
K	DA221	MU	MA151WA
M1A	MA159	N	DAN222
M1C	MA158	N	DAN202T
M1M	MA721	NU	MA152WK
M1N	MA713DAT	P	DAP202T
M1P	MA714	S4	D1FS4
M2A	MA122	SA	SB10-05P
M2B	MA123	Z	DA106K

3. Leadless Resistor

The resistor value is indicated on its surface, using three numerals, or one letter and one numeral.

(1) Identification with three numerals

Read this code following the same procedure as when reading the color code on discrete resistors.

Example :

code	value
330	33 x 10^0 = 33 ohms
561	56 x 10^1 = 560 ohms
123	12 x 10^3 = 12K ohms
1R2	1 + 0.2 = 1.2 ohms

(R : Decimal point)

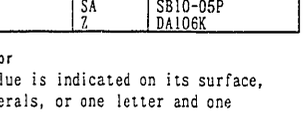
(2) Identification with one letter and one numeral

Use this code and the following chart for resisitor identification.

Letter	Value	Letter	Value	Letter	Value
A	1	J	2.2	S	4.7
C	1.2	L	2.7	U	5.6
E	1.5	N	3.3	W	6.8
G	1.8	Q	3.9	Y	8.2

Example :

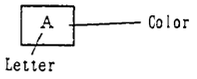
code	value
A1	1 x 10^1 = 10 ohms
G2	1.8 x 10^2 = 180 ohms
L3	2.7 x 10^3 = 2700 ohms
S4	4.7 x 10^4 = 47K ohms
W5	6.8 x 10^5 = 680K ohms



4. Leadless Capacitors

The capacitor value is indicated on its surface, using body color and one letter, or one letter and one numeral.

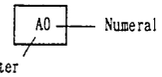
(1) Identification with body color and one letter



Body Color	Letter	Value	Body Color	Letter	Value
Red	A	1(PF)	Blue	A	100(PF)
	C	2		C	120
	E	3		E	150
	G	4		G	180
	J	5		J	220
	L	6		L	270
	N	7		N	330
	Q	8		Q	390
	S	9		S	470
Black	A	10(PF)		U	560
	C	12		W	680
	E	15		Y	820
	G	18	White	A	0.001(μF)
	J	22		E	0.0015
	L	27		J	0.0022
	N	33		L	0.0027
	Q	39		N	0.0033
	S	47		S	0.0047
	U	56		W	0.0068
	W	68	Green	A	0.01(μF)
	Y	82		E	0.015
				J	0.022
				N	0.033
				S	0.047
				U	0.056
				W	0.068
				Y	0.082
			Yellow	A	0.1(μF)

Example : Color	Letter	Value
Red	A	1PF
Black	A	10PF

(2) Identification with one letter and one numeral



Letter/Numeral	Value	Letter/Numeral	Value
A0	1(PF)	A2	100(PF)
H0	2	C2	120
M0	3	E2	150
d0	4	G2	180
f0	5	J2	220
m0	6	L2	270
n0	7	N2	330
t0	8	Q2	390
v0	9	S2	470
A1	10(PF)	U2	560
C1	12	W2	680
E1	15	Y2	820
G1	18	A3	0.001(μF)
J1	22	E3	0.0015
L1	27	J3	0.0022
N1	33	N3	0.0033
Q1	39	S3	0.0047
S1	47	W3	0.0068
U1	56	A4	0.01(μF)
W1	68	E4	0.015
Y1	82	J4	0.022
		N4	0.033
		S4	0.047
		U4	0.056
		W4	0.068
		A5	0.1

Example :

Letter/Numeral	Value
A0	1PF
A1	10PF

5. Leadless Jumper

The leadless jumper is indicated as shown below.

(1) (2) (3) (4)

DISASSEMBLY

NOTE

The disassemblies of these models are the same as those of the VM-2700A/3700A models. Refer to the manuals shown below as the disassembly.

Model	Manual No.	Pages Inclued
VM-2700A/3700A	6402E	2-1 to 2-5, 2-7, 2-9 to 2-11

1. CASES AND CIRCUIT BOARDS REMOVAL

1-6. Hood Holder, Lens Block, CCD Image Sensor and SPC (Sensor/Process) Circuit Board Removal (Fig. 1-7)

1) Remove the lens hood and left case. (See Figs. 1-1, 1-2)

♦ Hood Holder

Note: Remove the control circuit board in advance from a model on which it is mounted.

2) Remove the camera block. (See Fig. 1-4)

3) Release 2 tabs (1) and remove the hood holder. (See Fig. 1-7)

Note: When the hood holder is removed, the rubber ring comes off. See the upper right in Fig. 1-7 for reinstalling the rubber ring.

♦ Lens Block

5) Disconnect 1 flat cable (2) on the SPC circuit board. (See Fig. 1-7)

6) Remove 2 screws (3) holding the lens block and sensor plate.

7) Remove 2 screws (4) holding the lens block and camera frame.

Note: When the lens block is removed, the crystal filter, sensor rubber and sensor guide come off. Be careful not to damage the crystal filter.

♦ CCD Image Sensor and SPC Circuit Board

8) Unsolder 16 points (57) (terminals of CCD image sensor) on the SPC circuit board. (See Fig. 2-7)

9) Remove 2 screws (6) holding the SPC circuit board and sensor plate.

Note: Be careful not to damage the CCD image sensor.

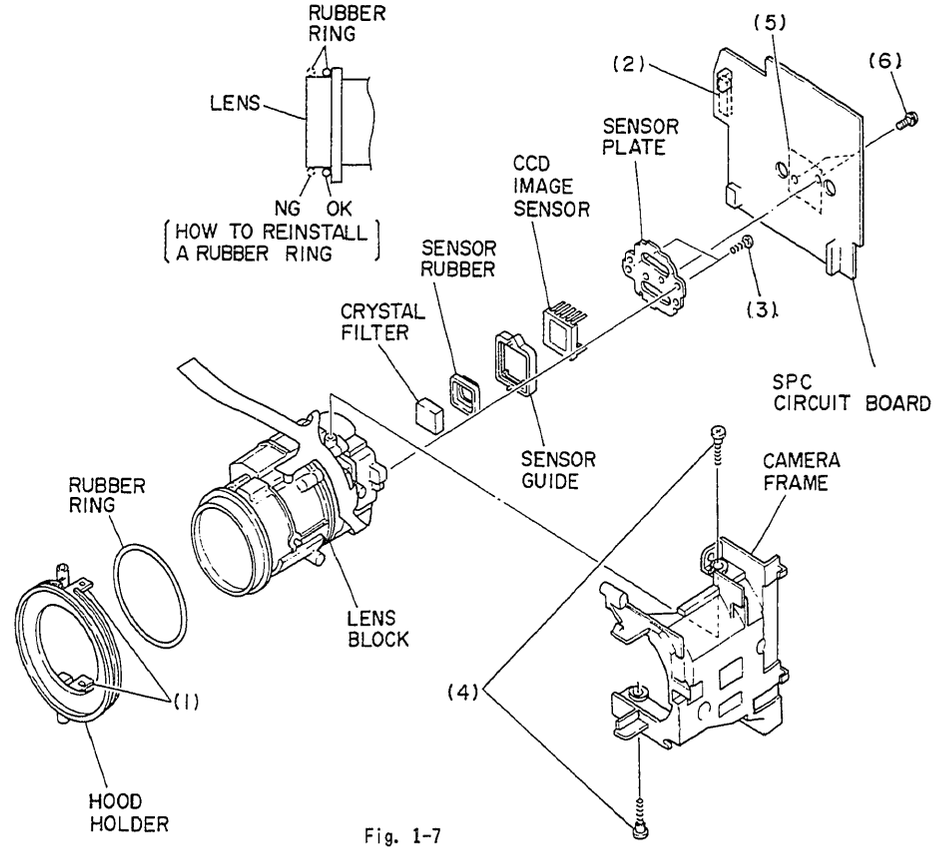


Fig. 1-7

2. ELECTRONIC VIEWFINDER (EVF) BLOCK

2-2. EVF Top Case, EVF Front Case, EVF Neck Block, Microphone (MIC) Unit, EMSF (Electronic Viewfinder) Circuit Board and EVF Bottom Case Removal. (Fig. 2-3)

♦ EVF Top Case and EVF Front Cover

1) Remove 4 screws (1) holding the EVF top and bottom cases.
2) Remove the EVF top case from the EVF bottom case.
3) Remove the EVF front cover from the EVF bottom case.

♦ EVF Neck Block

4) Disconnect connector (2) on the EMSF circuit board and CRT socket.
5) Remove the EVF neck block from the EVF bottom case.

♦ Microphone (MIC) Unit

6) Disconnect connector (3) on the MIC.
7) Remove the MIC from the EVF bottom case.

♦ EMSF (Electronic Viewfinder) Circuit Board and EVF Bottom Case

8) Remove the cable holder from the EVF bottom case.
9) Discconect connector (4) on the EMSF circuit board.
10) Remove the EMSF circuit board from the EVF bottom case.

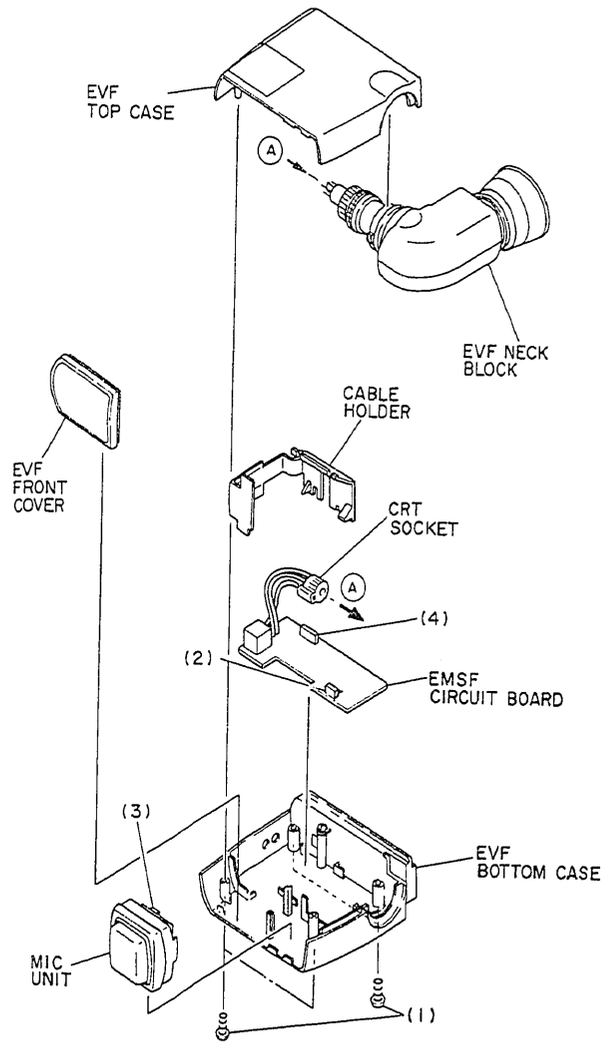


Fig. 2-3

3. LENS BLOCK

Note: Remove the lens block in advance.

3-1. Zoom Motor and Focus Motor Removal (Fig. 3-1)

♦ Zoom Motor

1) Unsolder 2 points (1) (terminal of the zoom motor). (See Fig. 3-1)
2) Remove 2 screws (2) holding the zoom motor.

♦ Focus Motor

1) Unsolder 2 points (3) (terminal of the focus motor). (See Fig. 3-1)
2) Remove 2 screws (4) holding the focus motor.

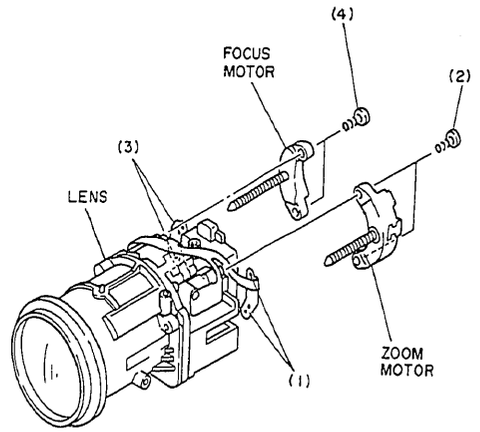


Fig. 3-1

★ Caution when reinstalling the zoom motor (Fig. 3-2)

1) Remove the plastic tape frome the side.
2) With the lens facing up, move the rack down.
3) Insert the shaft halfway and move it in the direction of arrow (A) to engage it with the rack.
4) Further insert the shaft and push it into the bearing securely to fix it. Check this state through the window on the side.

※ After reinstalling, be sure to re-attach the plastic tape in its original position.

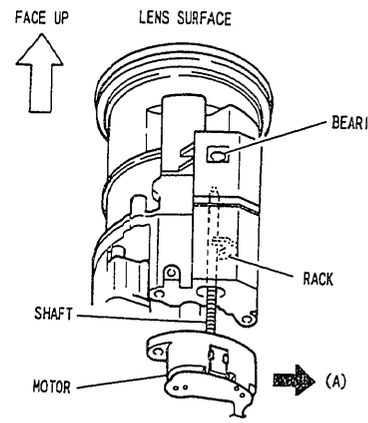


Fig. 3-2

★ Caution when reinstalling the focus motor (Fig. 3-3)

1) Remove the plastic tape from the side.
2) With the lens facing up, move the rack down.
3) Engage the middle of the shaft into the rack from the side.
4) Move the shaft up and push it into the bearing securely to fix it. Check this state through the window on the side.

※ After reinstalling, be sure to re-attach the plastic tape in its original position.

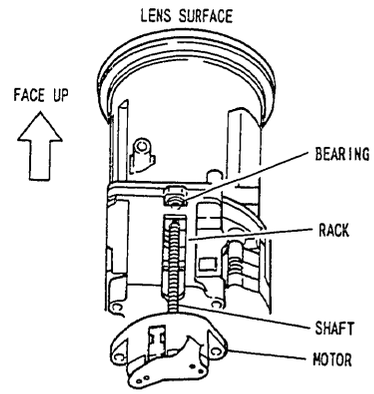
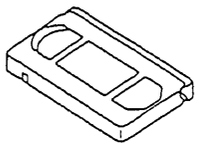
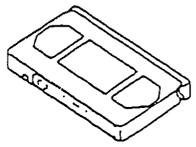
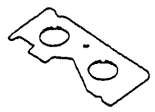
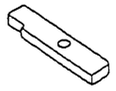
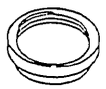
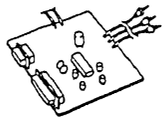
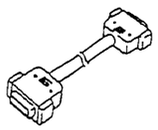
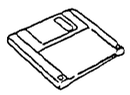
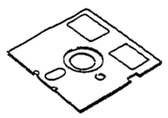
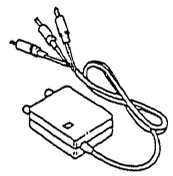
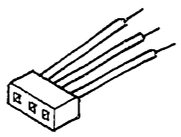


Fig. 3-3

JIGS AND TAPES FOR ADJUSTMENT

1. BACK TENSION METER No. 7099004 	2. ALIGNMENT TAPE (MH-1) No. 7099046 		3. MASTER PLANE No. 7099279 
4. TORQUE GAUGE No. 7099039	5. TORQUE GAUGE ADAPTER No. 7099204	6. REEL DISK HEIGHT JIG No. 7099038 	7. HEXAGONAL WRENCH 0.9mm : No. 7099202
8. EXTENSION POWER CABLE No. 7099326	9. LIGHT BALANCING FILTER C12 (46mmφ) No. 7099369 	10. DSP-R JIG No. 7099448 	★11. PERSONAL COMPUTER
★12. PERSONAL COMPUTER 9-PIN or 25-PIN CABLE 	13. CAMERA ADJ. FLOPPY DISK No. 7069074 (3.5 inch) 	※14. CAMERA ADJ. FLOPPY DISK No. 7069076 (5 inch) 	◆14. RF CONVERTER UNIT (VM-RF80A) 
16. 3-PIN EXTENSION CABLE No. 7069066 			

MARKS
- ★ : Goods on the Market
- ◆ : Optional Accessory
- ※ : New jigs and tools
- ◎ : Accessory

ELECTRICAL ADJUSTMENT

NOTE

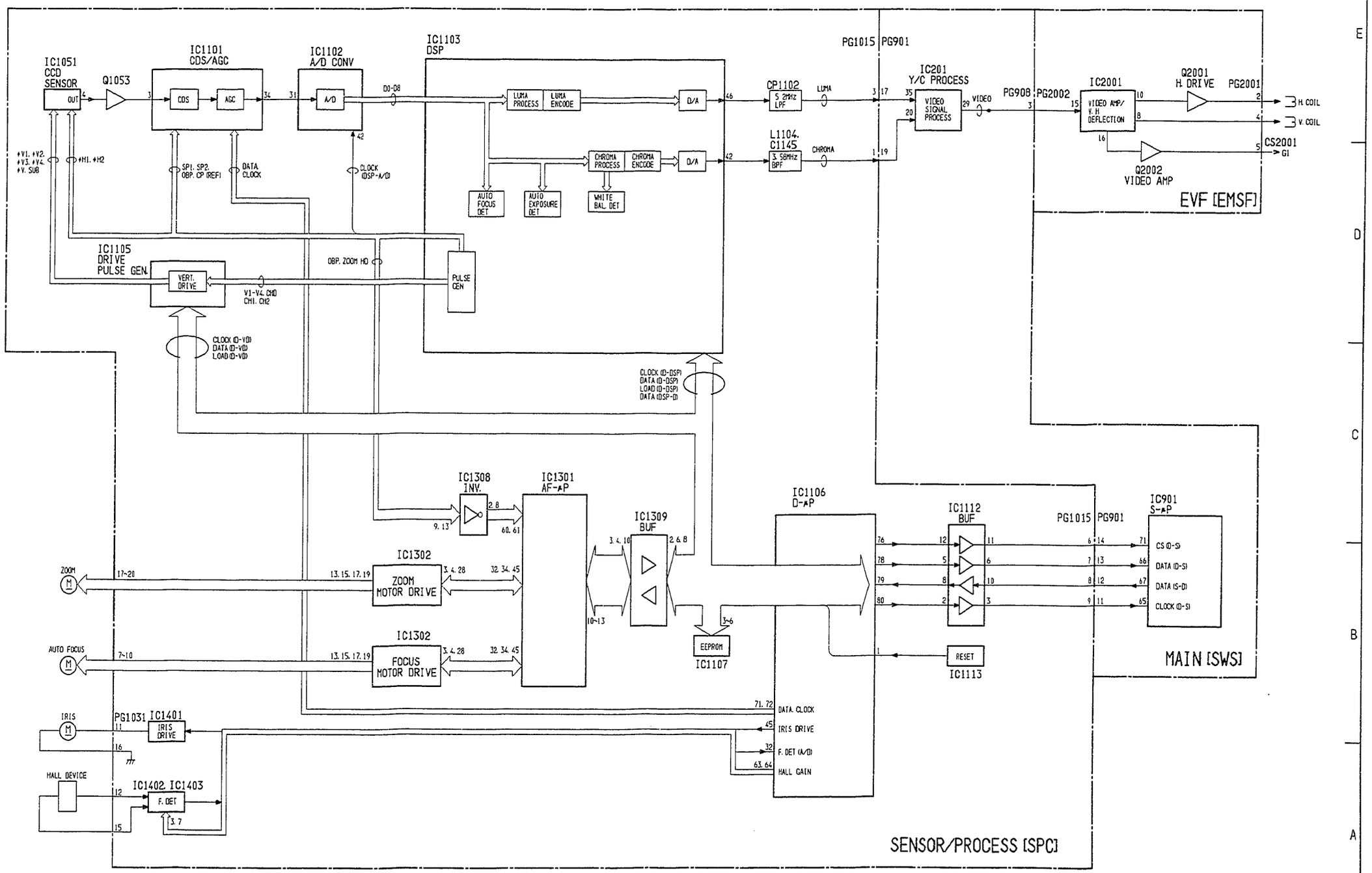
The Electrical adjudtments of these models are the same as those of the VM-2700A/3700A models. Refer to the manuals shown below as the Electrical adjudtment.

Model	Manual No.	Pages Inclued
VM-2700A/3700A	6402E	3-2 to 3-37

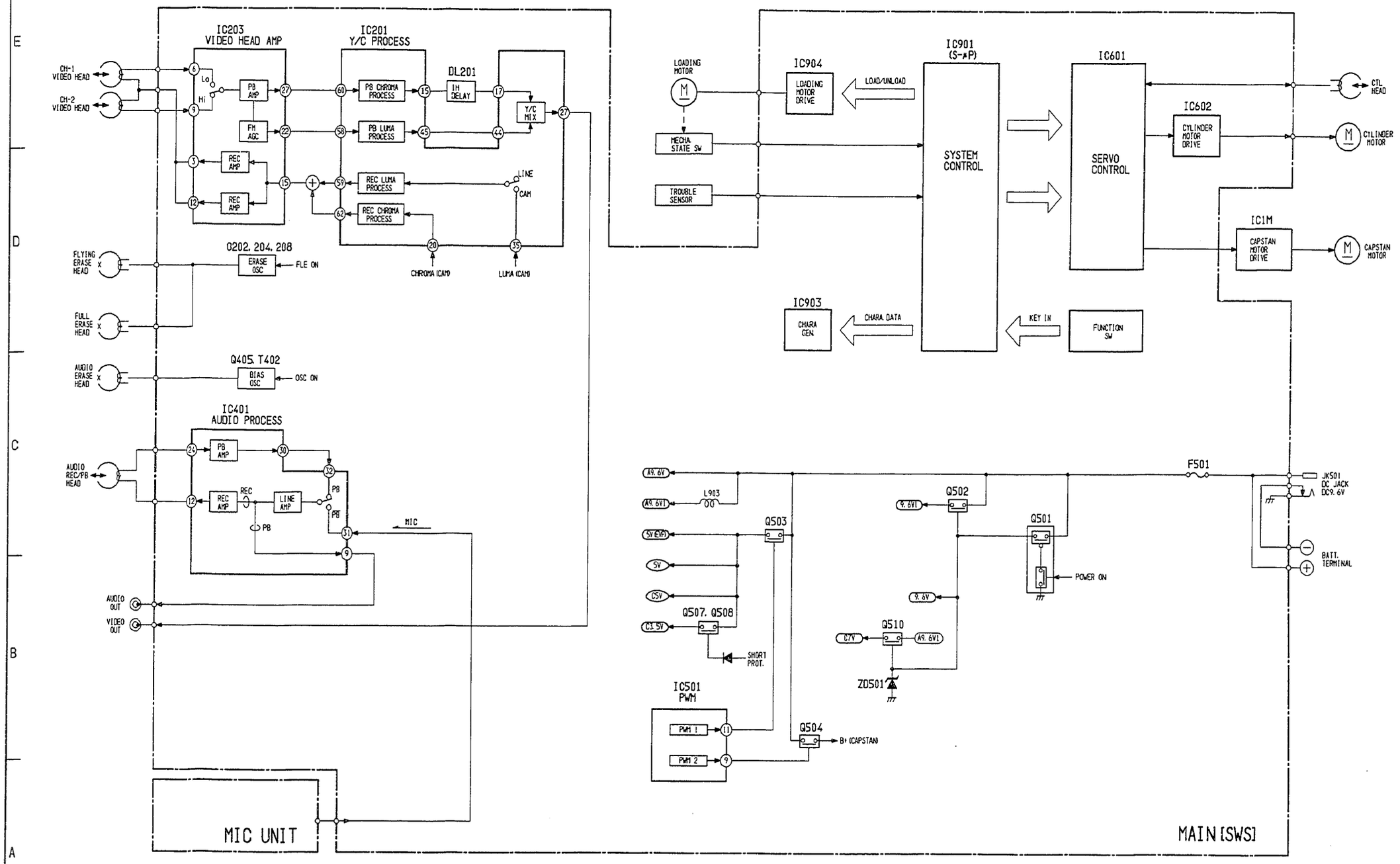
CHAPTER 4

BLOCK DIAGRAMS & MICROPROCESSOR PIN FUNCTION TABLES

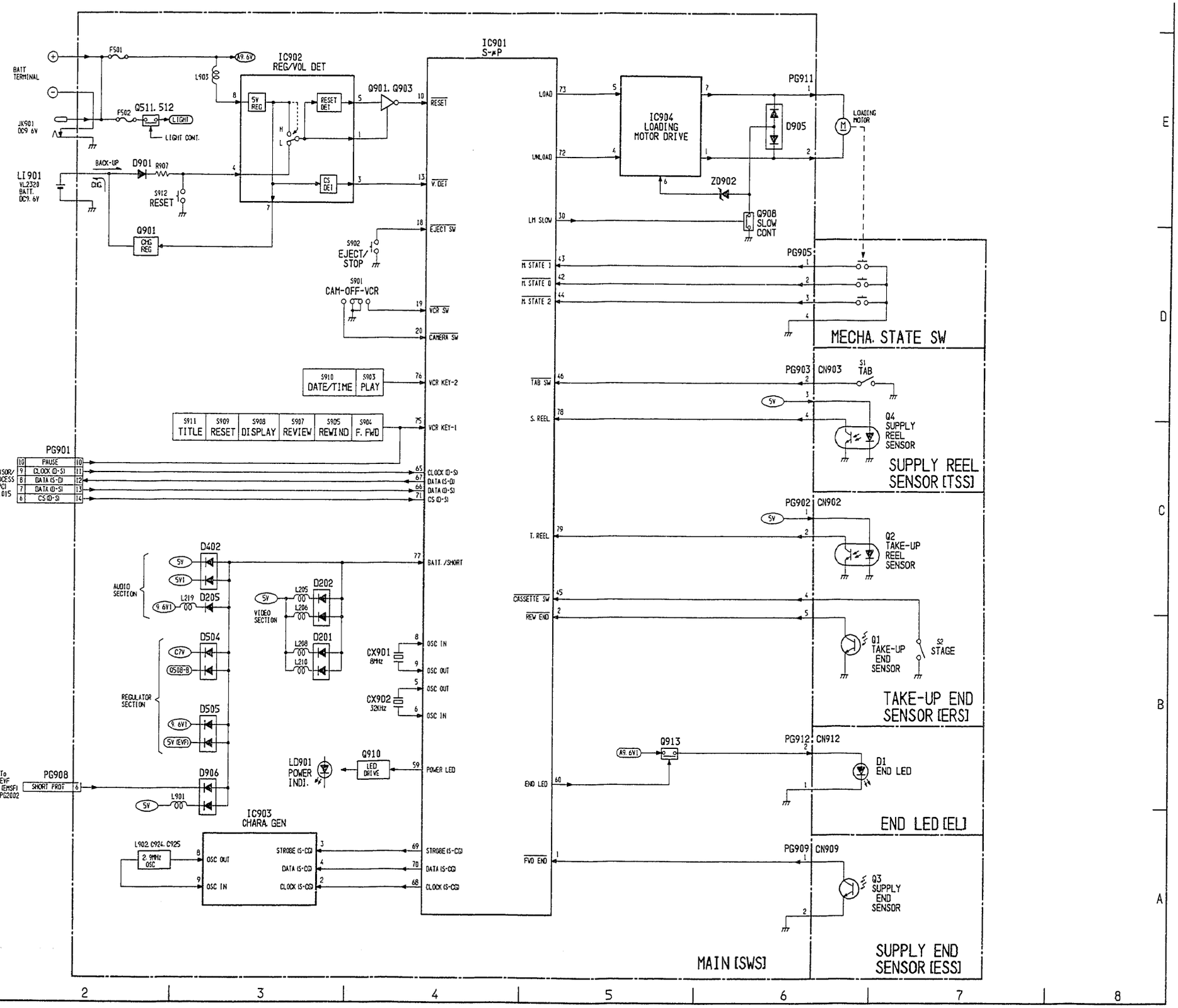
CHAPTER 4
BLOCK DIAGRAM
1-1. CAMERA



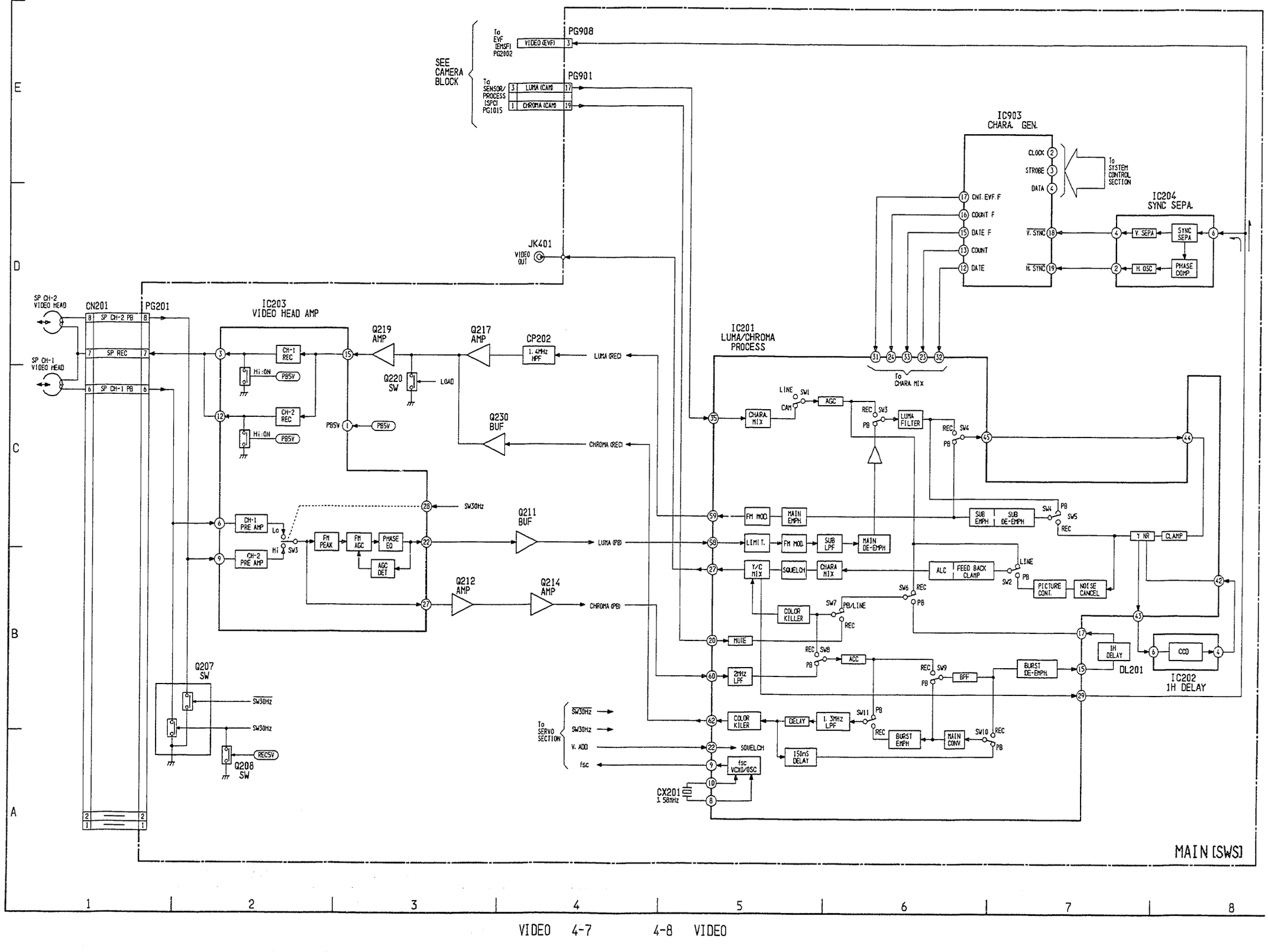
1-2. OVERALL


IC203
VIDEO HEAD AMP
IC201
Y/C PROCESS
DL201
CH-1 VIDEO HEAD
CH-2 VIDEO HEAD
Lo
Hi
PB AMP
FM AGC
REC AMP
REC AMP
PB CHROMA PROCESS
PB LUMA PROCESS
1H DELAY
Y/C MIX
REC LUMA PROCESS
REC CHROMA PROCESS
LINE
CAM
CHROMA (CAM)
LUMA (CAM)
FLYING ERASE HEAD
FULL ERASE HEAD
Q202, 204, 208
ERASE OSC
FLE ON
AUDIO ERASE HEAD
Q405, T402
BIAS OSC
OSC ON
IC401
AUDIO PROCESS
AUDIO REC/PB HEAD
PB AMP
REC AMP
REC
LINE AMP
PB
MIC
AUDIO OUT
VIDEO OUT
MIC UNIT
LOADING MOTOR
MECHA. STATE SW
TROUBLE SENSOR
IC904
LOADING MOTOR DRIVE
LOAD/UNLOAD
IC901
(S-μP)
SYSTEM CONTROL
IC601
SERVO CONTROL
IC602
CYLINDER MOTOR DRIVE
CYL. HEAD
CYLINDER MOTOR
IC1M
CAPSTAN MOTOR DRIVE
CAPSTAN MOTOR
IC903
CHARA GEN
CHARA DATA
KEY IN
FUNCTION SW
A9.6V
L903
A9.6V1
5V&6V1
5V
C5V
C3.5V
Q503
Q507, Q508
SHORT PROT.
IC501
PWM
PWM 1
PWM 2
Q504
B+ (CAPSTAN)
Q502
9.6V1
Q501
POWER ON
9.6V
Q510
C7V
A9.6V1
ZD501
F501
JK501
DC JACK
DC9.6V
BATT. TERMINAL
MAIN [SWS]

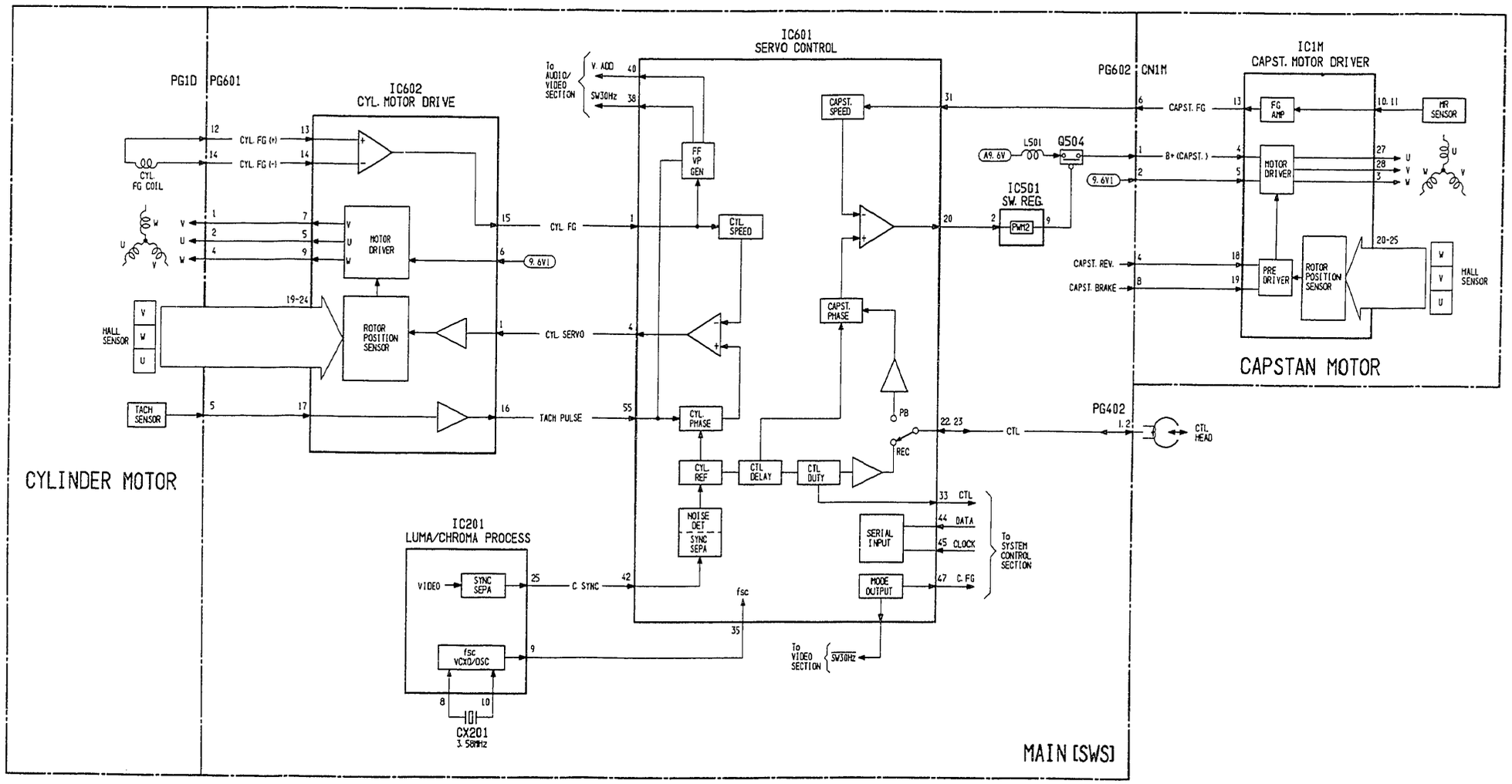
1-3. SYSTEM CONTROL



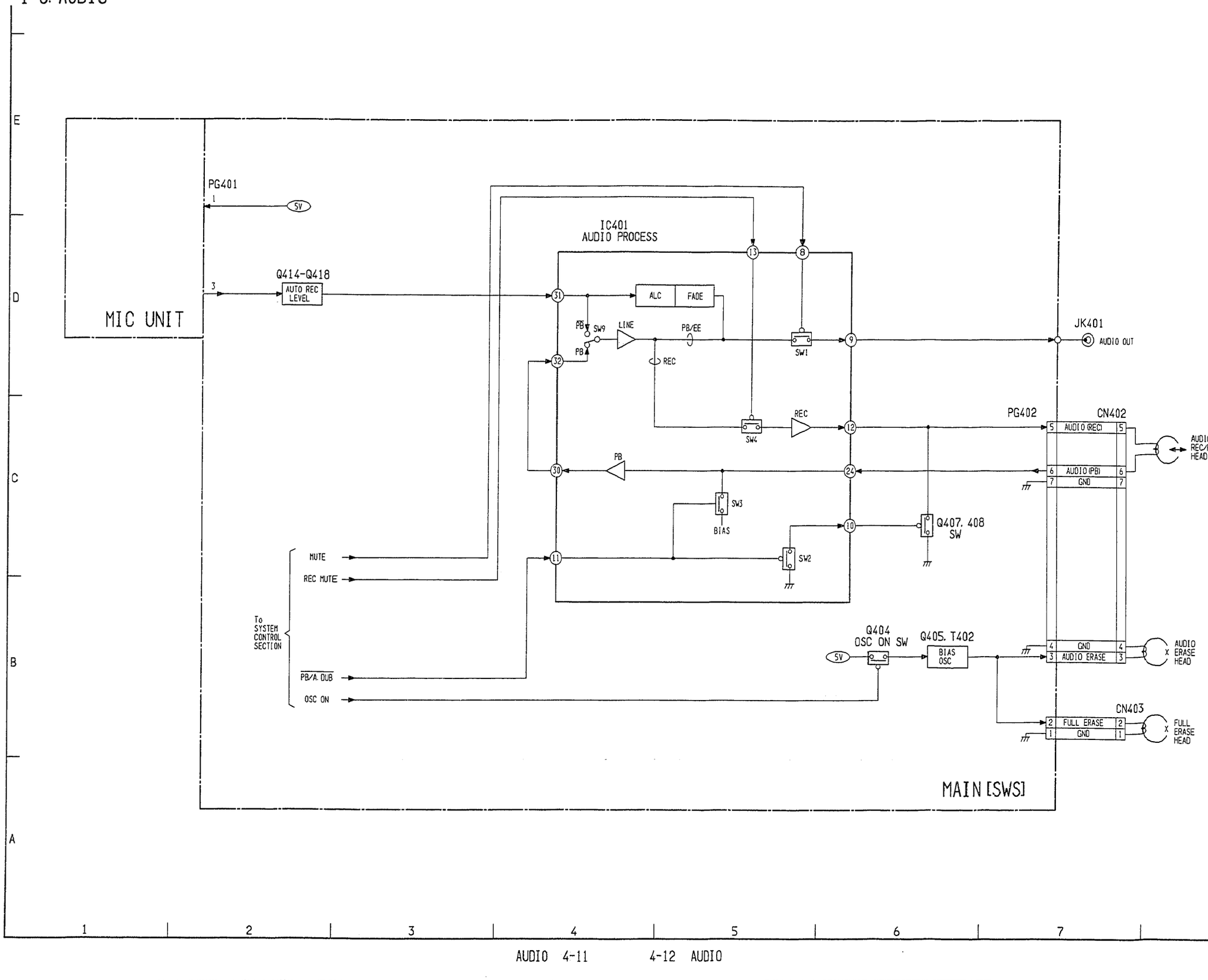
1-4. VIDEO



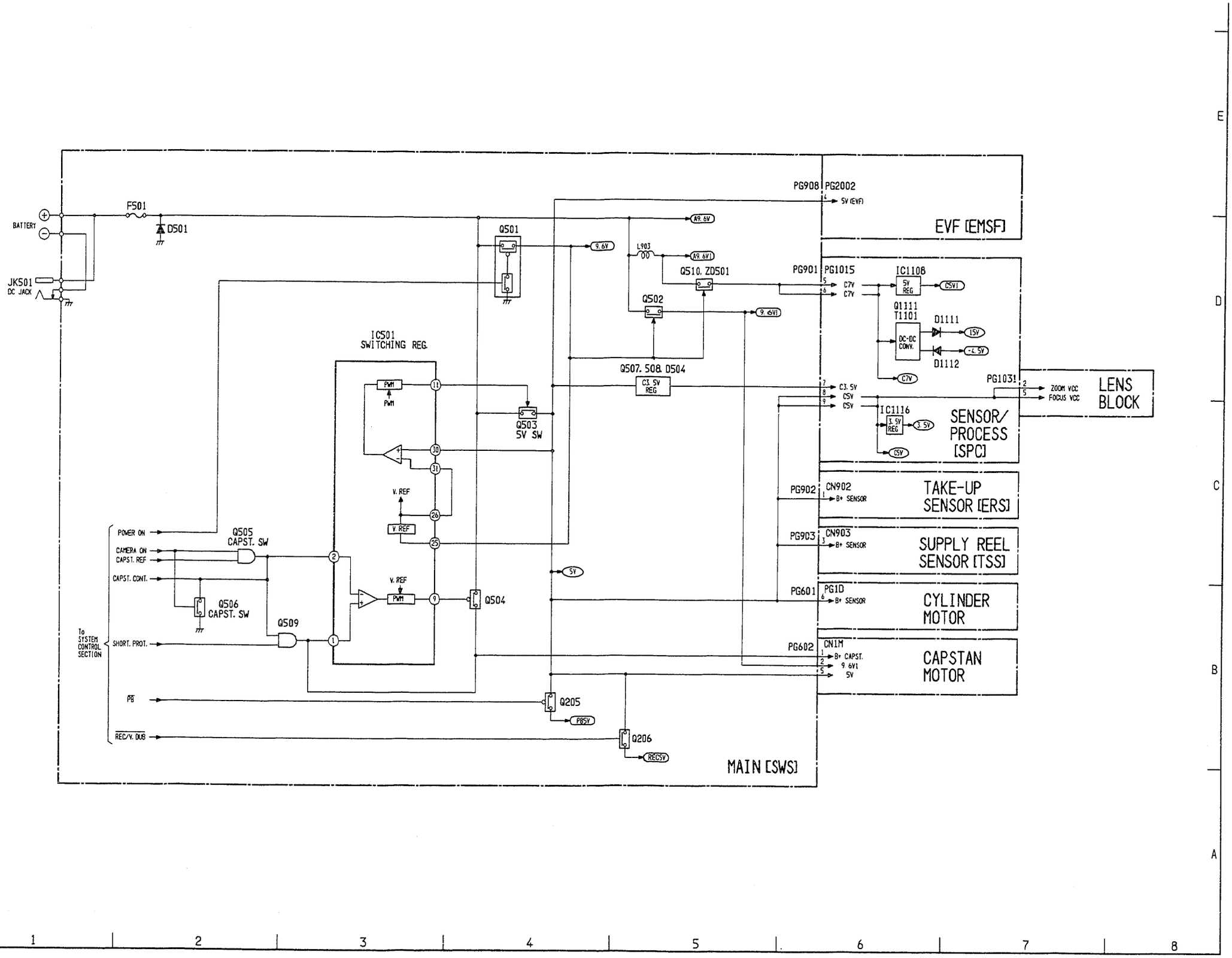
VIDEO 4-7 4-8 VIDEO


IC601
SERVO CONTROL
PG1D PG601
IC602
CYL. MOTOR DRIVE
To AUDIO/ VIDEO SECTION
V. ADD
SW30Hz
CYL. FG (+)
CYL. FG (-)
CYL. FG COIL
MOTOR DRIVER
ROTOR POSITION SENSOR
HALL SENSOR
TACH SENSOR
9.6V1
CYL. FG
CYL. SERVO
TACH PULSE
FF VP GEN
CYL. SPEED
CYL. PHASE
CYL. REF
CTL DELAY
CTL DUTY
NOISE DET
SYNC SEPA
CAPST. SPEED
CAPST. PHASE
PB
REC
CTL
SERIAL INPUT
MODE OUTPUT
DATA
CLOCK
C. FG
To SYSTEM CONTROL SECTION
fsc
To VIDEO SECTION
SW30Hz
CYLINDER MOTOR
IC201
LUMA/CHROMA PROCESS
VIDEO
SYNC SEPA
C SYNC
fsc VCXO/OSC
CX201
3.58MHz
PG602 CN1M
IC1M
CAPST. MOTOR DRIVER
CAPST. FG
FG AMP
MR SENSOR
A9.6V
L501
Q504
B+(CAPST.)
IC501
SW. REG.
PWM2
MOTOR DRIVER
CAPST. REV.
CAPST. BRAKE
PRE DRIVER
ROTOR POSITION SENSOR
HALL SENSOR
CAPSTAN MOTOR
PG402
CTL HEAD
MAIN [SWS]

1-6. AUDIO


MIC UNIT
PG401
1
5V
3
Q414-Q418
AUTO REC LEVEL
IC401
AUDIO PROCESS
13
8
31
32
ALC
FADE
PB
SW9
LINE
PB/EE
REC
SW1
9
JK401
AUDIO OUT
SW4
REC
12
PG402
CN402
5 AUDIO (REC) 5
6 AUDIO (PB) 6
7 GND 7
AUDIO REC/PB HEAD
30
PB
24
SW3
BIAS
10
Q407. 408 SW
11
SW2
MUTE
REC MUTE
To SYSTEM CONTROL SECTION
PB/A. DUB
OSC ON
Q404
OSC ON SW
5V
Q405. T402
BIAS OSC
4 GND 4
3 AUDIO ERASE 3
AUDIO ERASE HEAD
CN403
2 FULL ERASE 2
1 GND 1
FULL ERASE HEAD
MAIN [SWS]

1-7. POWER


BATTERY
F501
D501
JK501
DC JACK
Q501
9.6V
A9.6V
L903
A9.6V1
Q510, ZD501
Q502
9.6V1
Q507, 508, D504
IC501
SWITCHING REG.
PWM
C3.5V REG
Q503
5V SW
V.REF
POWER ON
CAMERA ON
CAPST. REF
CAPST. CONT.
Q505
CAPST. SW
Q506
CAPST. SW
Q509
SHORT. PROT.
To SYSTEM CONTROL SECTION
Q504
5V
PB
Q205
PB5V
REC/V. DUB
Q206
REC5V
MAIN [SWS]
PG908
PG2002
5V (EVF)
EVF [EMSF]
PG901
PG1015
C7V
C5V1
IC1108
5V REG
Q1111
T1101
DC-DC CONV.
D1111
15V
-7.5V
D1112
C3.5V
C5V
IC1116
3.5V REG
3.5V
PG1031
ZOOM VCC
FOCUS VCC
LENS BLOCK
SENSOR/ PROCESS [SPC]
PG902
CN902
B+ SENSOR
TAKE-UP SENSOR [ERS]
PG903
CN903
SUPPLY REEL SENSOR [TSS]
PG601
PG1D
CYLINDER MOTOR
PG602
CN1M
B+ CAPST.
9.6V1
5V
CAPSTAN MOTOR

2. MICROPROCESSOR PIN FUNCTION TABLES

2-1. Digital Microprocessor (IC1106: D-μP)

Pin No.	I/O	Active Level	Abbreviation	Function
1	I	Lo	RESET (Lo)	Initializes IC1106.
2	I	(Pulse)	OSC OUT	Not used. Open.
3	I	(Pulse)	CLOCK (14MHz) IN	Receives the 4fsc (14.32MHz) pulse from IC1103 (DIGITAL PROCESS) as a reference clock pulse.
4	I	——	——	Set the IC1106 operation mode. Connected to 3.5V power supply.
5	I	——	——	
6	—	——	——	Not used. Connected to 3.5V power supply.
7	I	Lo	STANDBY (Lo)	Not used. Connected to 3.5V power supply.
8	—	——	B+(3.5V)	3.5V power supply input.
9	O	Hi	FULL AUTO	Not used. Open.
10	I	(Pulse)	RX DATA (R)	Perform initial settings and for data communicate with the personal computer used for adjustment.
11	O	(Pulse)	TX DATA (R)	
12	—	——	GND	Grounded.
13	I	Lo	TELE SW (Lo)	Zoom switches detection inputs.
14	I	Lo	WIDE SW (Lo)	
15	I	Hi	T/W SLOW	Low-speed zoom detection input.
16	I	Lo	FAR SW (Lo)	Not used.
17	I	Lo	NEAR SW (Lo)	
18	I	(Pulse)	FV	V.sync pulse input.
19	I	(Pulse)	FP	Field detection pulse input.
20	I	(Pulse)	EP2	Receive pulse that detect the iris control area from IC1103 (DIGITAL PROCESS).
21	I	(Pulse)	CHD	H.sync pulse input.
22	O	(Pulse)	CINEMA	Supplies pulse to IC1103 (DIGITAL PROCESS) to control the wipe fade operation.
23	I	Lo	S-VHS	Internal mode (S-VHS) setting input. This is ground in S-VHS models and connected to the 3.5V power supply in VHS models.
24	I	Lo	SECAM (Lo)	Internal mode (SECAM) setting input. Connected to 3.5V power supply.
25	I	Lo	PAL (Lo)	Internal mode (PAL) setting input. Connected to 3.5V power supply.
26	O	Hi	SECAM SW	Not used. Open.
27	—	——	——	Not used. Open.
28	—	——	——	
29	—	——	Vcc (A)	5V power supply input.
30	I	0V-5V	H-MODE (A/D)	Not used. Connected to ground.
31	I	0V-5V	V-MODE (A/D)	
32	I	0V-5V	F DET (A/D)	F value detection input. Receives the F.DET voltage detected by IC1402 and compares it with the reference voltage stored in IC1107 (EEPROM) to determine the F value.
33	I	0V-5V	PLL ADJ.	Not used. Open.
34	I	0V-5V	CAM KEY 1(A/D)	Camera switches detection input.
35	I	0V-5V	CAM KEY 2(A/D)	
36	O	0V-5V	HALL ADJ 0(A/D)	Controls the bias voltage of the Hall device.
37	O	0V-5V	HALL ADJ 1(A/D)	Controls the offset voltage of the IC1402.
38	—	——	GND	Grounded.
39	—	——	——	Not used. Open.
40	—	——	——	
41	—	——	——	
42	I	(Pulse)	CHD	H.sync pulse input.
43	—	——	——	Not used. Open.
44	—	——	——	
45	O	(Pulse)	IRIS DRIVE	Iris motor drive output. Smoothed by an integrating circuit and then supplied to the autofocus circuit.
46	O	0V-5V	XTAL ADJ.	Not used. Open.
47	—	——	Vcc	3.5V power supply input.
48	—	——	——	Not used. Open.
49	—	——	——	
50	—	——	——	
51	—	——	——	
52	—	——	——	
53	—	——	——	
54	—	——	——	
55	—	——	——	
56	—	——	GND	Grounded.
57	O	Lo	P SAVE (Lo)	Output "Lo" in models other then camera recording to prevent non-essential circuits from operating, thus reducing power consumption.
58	O	(Pulse)	REC LED	Not used. Open.
59	—	——	——	Not used. Open.
60	—	——	——	
61	O	Lo	H.GYRO-RST (Lo)	Not used. Open.
62	O	Lo	V.GYRO-RST (Lo)	
63	O	Hi/Lo	HALL GAIN 1	Control the gain of IC1402.
64	O	Hi/Lo	HALL GAIN 2	

Pin No.	I/O	Active Level	Abbreviation	Function
65	—	——	——	Not used. Open.
66	O	Lo	ROM CONT. (Lo)	Control the power supply of the IC1107 (EEPROM).
67	O	(Pulse)	LOAD (D-DZ)	Not used. Open.
68	O	(Pulse)	LOAD (D-DA)	
69	O	(Pulse)	LOAD (D-DSP)	Outputs pulse to latch the data transferred to IC1103 (DIGITAL PROCESS) and IC1104 (E ZOOM μP).
70	O	(Pulse)	LOAD (D-VD)	Outputs pulse to latch the data transferred to IC1105 (DRIVE PULSE GEN.).
71	O	(Pulse)	CLOCK (D-CDS)	Output the data transferred to IC1101 (CDS/AGC).
72	O	(Pulse)	DATA (D-CDS)	
73	—	——	GND	Grounded.
74	O	Hi	CS (D-ROM)	Activates data communications with IC1107 (EEPROM).
75	O	(Pulse)	CS (D-AF)	Activates data communications with IC1301 (AF-μP).
76	O	(Pulse)	CS (D-S)	Activates data communications with IC901 (S-μP).
77	O	(Pulse)	CS (D-S)	Activates data communications with IC1112 (BUF).
78	O	(Pulse)	DATA (D-S/VD/DSP/DZ/ROM/AF)	Communicate data with IC901 (S-μP), IC1103 (DIGITAL PROCESS), IC1105 (DRIVE PULSE GEN.) IC1104 (E.ZOOM μP), IC1107 (EEPROM) and IC1301 (AF-μP).
79	I	(Pulse)	DATA (S/DSP/ROM/AF-D)	
80	I/O	(Pulse)	CLOCK (D/AF-S/DSP/VD/DZ/ROM)	

2-2. System Control Microprocessor (IC901: S-μP)

Pin No.	I/O	Active Level	Abbreviation	Function
1	I	Lo	FWD END(Lo)	Detects the tape end during record, playback, fast forward and forward search modes.
2	I	Lo	REW END(Lo)	Detects the tape end during rewind and rewind search modes.
3	—	——	GND	Grounded
4	I	Hi	TEST	Grounded
5	O	(Pulse)	OSC OUT	Generates 32kHz clock pulse by the crystal oscillator (CX902:32kHz) for back μP of the 8MHz clock pulse.
6	I	(Pulse)	OSC IN	
7	—	——	GND	Grounded
8	I	(Pulse)	OSC IN	Generates 8MHz clock pulse by the oscillator(CX901 8MHz) in the power on mode.
9	O	(Pulse)	OSC OUT	
10	I	Lo	RESET(Lo)	Initializes the μP.
11	I	Lo	WAKEUP(Lo)	Changes the clock pulse to 8MHz from 32kHz when the EJECT switchis pressed, when the CAMERA/VCR switch is set to on or when the cassette holder is closed.
12	I	(Pulse)	SW30Hz	Detects the cylinder lock, dew and determines the timing of the flying erase head.
13	I	Lo	V.DET(LO)	Detects disconnection of the battery or the AC adapter and enters the back μP mode.
14	I	0V-5V	REMOTE	Not used. Connected to 5V.
15	I	(Pulse)	CTL	Generates the braking pulse synchronized with the CTL pulse to stop the tape in the still and frame advance modes.
16	—	——	——	Not used. Connected to 5V.
17	I	(Pulse)	CAPST.FG	Calculates the amounts the tape rewound when the PAUSE switch is pressed during recording mode.
18	I	Lo	EJECT SW(Lo)	Detects the operation of the EJECT switch to eject the cassette.
19	I	Lo	VCR SW(Lo)	Detects the position of the CAMERA/VCR switch to enter the VCR mode.
20	I	Lo	CAMERA SW(Lo)	Detects the position of the CAMERA/VCR switch to enter the CAMERA mode.
21	I	Lo	REC START(Lo)	Detects the operation of the REC START/STOP switch.
22	O	Hi	POWER MUTE	Not used. Opened.
23	O	Hi	MIC MUTE	Not used. Opened.
24	O	Hi	REC MUTE	Mutes the audio signal during modes other than play.
25	O	Hi	MUTE	Mutes the audio signals.
26	O	Hi	OSC ON	Turns the bias oscillators on during recording.
27	O	Hi	FE ON	Activates the full erase head.

Pin No.	I/O	Active Level	Abbreviation	Function
28	O	Hi/Lo	FADE	Instructs fading out at the leading edge and fading in at the trailing edge of the recording.
29	O	——	FADE CONT.	
30	O	Hi	LM SLOW	Decreases the loading motor ratation speed at the begining of loading to remove tape slack.
31	O	Hi	LIGHT SW	Lights the DC Light.
32	—	——	——	Not used. Connected to 5V.
33	I	Hi	SYNCRO EDIT	Not used. Grounded.
34	I	Hi	SEARCH LOCK	Not used. Grounded.
35	I	Hi/Lo	NTSC/PAL(Lo)	Fixed to the NTSC. Connected to 5V.
36	I	Lo	SECAM OSD(Lo)	Not used. Connected to 5V.
37	I	Hi/Lo	SECAM/ME SECAM	Not used. Connected to 5V.
38	I	Lo	PAL(Lo)	Not used. Connected to 5V.
39	I	Hi	AV CONT.	Detects the position of the A/V IN/OUT switch.
40	—	——	——	Not used. Connected to 5V.
41	—	——	——	
42	I	Hi/Lo	M.STATE-0	Detect the mechanism state.
43	I	Hi/Lo	M.STATE-1	
44	I	Hi/Lo	M.STATE-2	
45	I	Lo	CASSETTE SW(Lo)	Detects the position of the cassette holder.
46	I	Lo	TAB SW(Lo)	Detects whether the tab is present or not to avoid accidental erasing.
47	O	Hi	POWER ON	Turns the switching regulator on to activate the camera block and VCR block.
48	O	Hi	EDIT	Not used. Opened.
49	O	Hi	LOAD	Stops the recording of the video signal.
50	O	Hi	FLE ON	Turns the flying erase head on for 5 seconds when the PAUSE switch is pressed during recording.
51	O	Hi	PAL TRAP	Not used. Opened.
52	O	Hi	TRICK PLAY	Not used. Opened.
53	O	Hi	MONITOR CUT	Not used. Opened.
54	—	——	——	Not used. Connected to 5V.
55	—	——	VCC	Connected to 5V.
56	O	Lo	PB(Lo)	Generates the PB5V in the preamp circuit.
57	O	Lo	PB(Lo)/ A.DUB(Lo)	Sets the video circuit to play.

Pin No.	I/O	Active Level	Abbreviation	Function
58	O	Lo	REC(Lo)/ V.DUB(Lo)	Sets the video circuit to record.
59	O	Hi	POWER LED	Lights the power indicator.
60	O	(Pulse)	END LED	Lights the end LED to detect the tape end.
61	O	Hi	CAPST.SW	Disables the capstan servo in the fast forward and rewind modes.
62	O	Hi	CAPST.REV	Reverses the tape in the rewind and reverse search modes.
63	O	Hi	CAPST.BRAKE	Disables the output of the capstan servo in the fast forward and rewind modes and stops the capstan motor in the stop and pause modes.
64	O	Hi	CAPST.REF	Controls the capstan speed in modes other than record and play modes.
65	I	(Pulse)	CLOCK(D-S)	Communicate with the D-μP (IC1106)
66	I	(Pulse)	DATA(D-S)	
67	O	(Pulse)	DATA(S-D)	
71	I	(Pulse)	CS(D-S)	
68	O	(Pulse)	CLOCK(S-SRV/ S-YC)	Transfer the data to the Luma/Chroma process (IC201), Servo Control (IC601) and Chara. Gen.(IC903).
69	O	(Pulse)	STROBE(S-CG)	
70	O	(Pulse)	DATA(S-SRV/ S-YC)	
72	O	Hi	UNLOAD	Control the loading motor.
73	O	Hi	LOAD	
74	—	——	VCC	Connected to 5V.
75	I	0V-5V	VCR KEY-1	Detect the key operations using the analog-to-digital conversion.
76	I	0V-5V	VCR KEY-2	
77	I	0V-5V	BATT/SHORT	Detects the battery remaining levels to display it in the EVF and detects the short-circuit of the power supplies.
78	I	(Pulse)	S.REEL	Calculates the tape remaining time.
79	I	(Pulse)	T.REEL	Calculates the tape remaining time, counts up the tape counter and detects the reel lock.
80	I	Hi	DEW	Not used. Grounded.

CHAPTER 5

SCHEMATIC & CIRCUIT BOARD DIAGRAMS

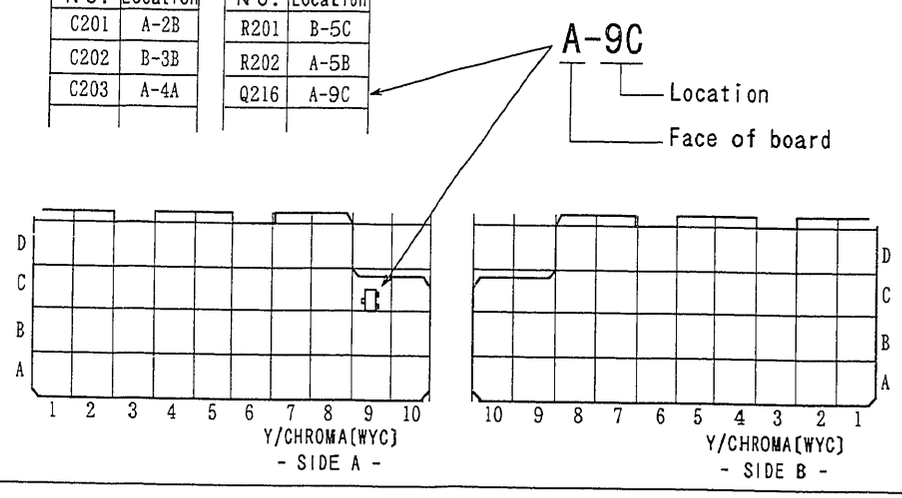
[Parts Location Indexing Tables]

This service manual shows the parts location indexing tables beside the major circuit board diagrams. These tables indicate the locations of each part on the circuit boards. Use the tables to locate the parts on the circuit boards.

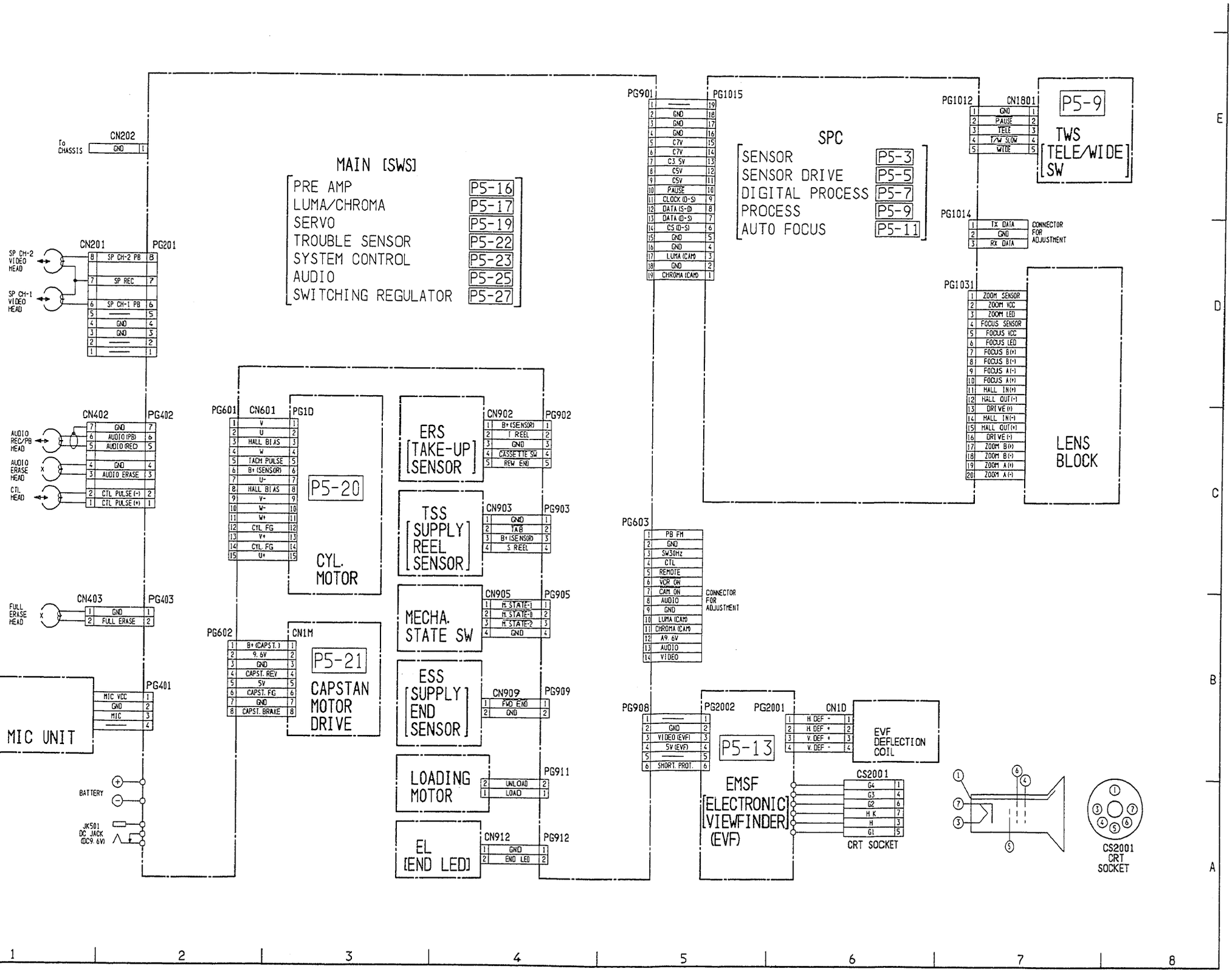
IDENTIFICATION OF PARTS LOCATION

Symbol No.	Parts Location
C201	A-2B
C202	B-3B
C203	A-4A

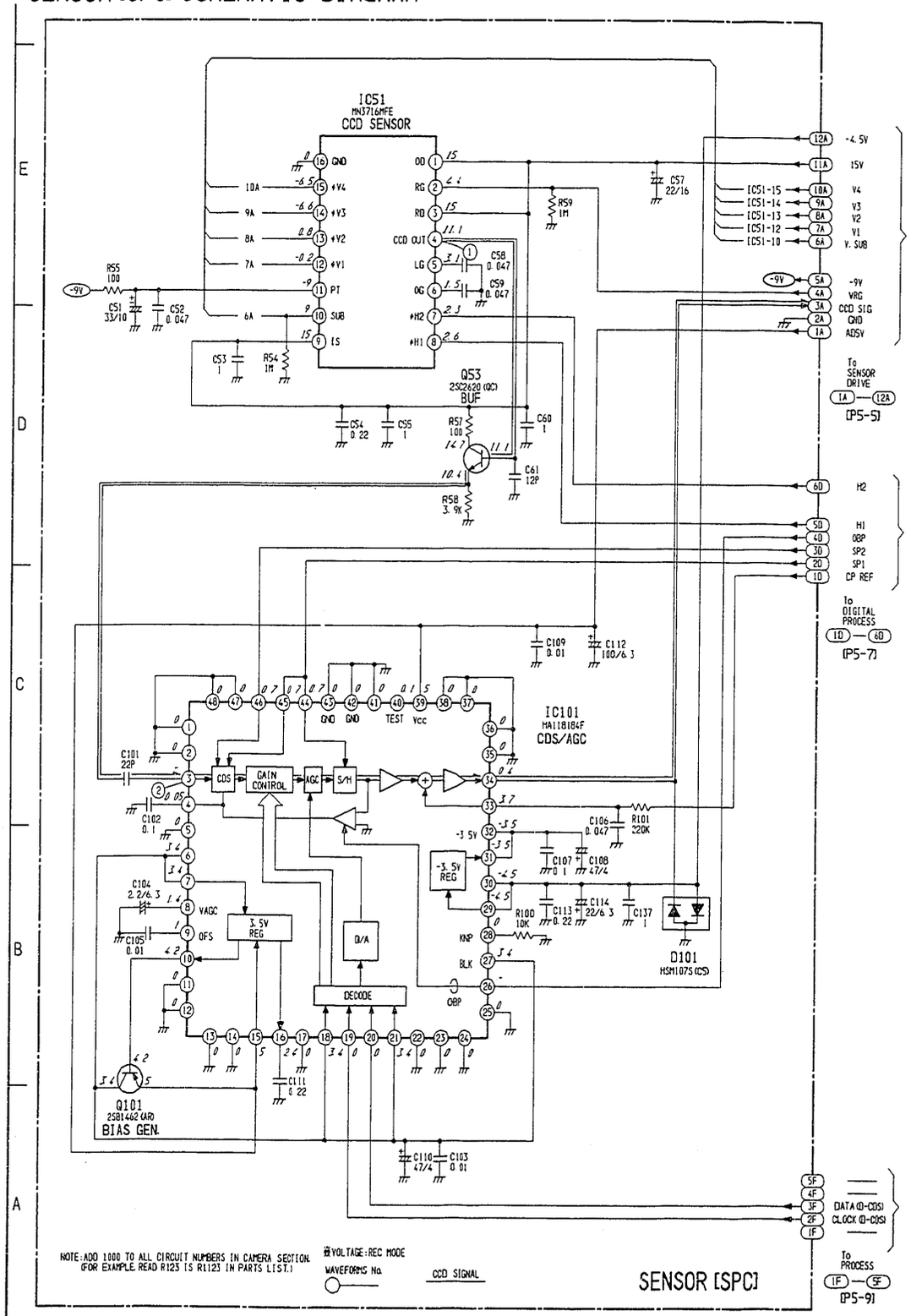
Symbol No.	Parts Location
R201	B-5C
R202	A-5B
Q216	A-9C



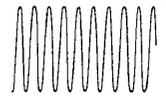
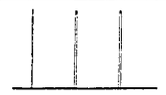
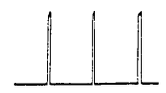
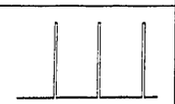
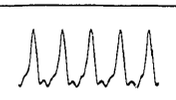
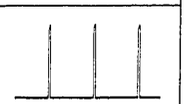
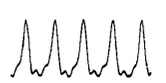
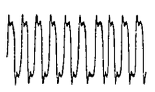
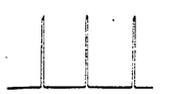
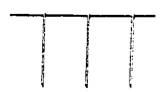
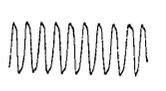
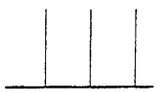
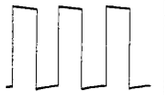
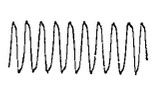
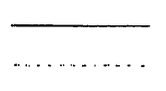
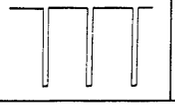
INTERNAL WIRING DIAGRAM



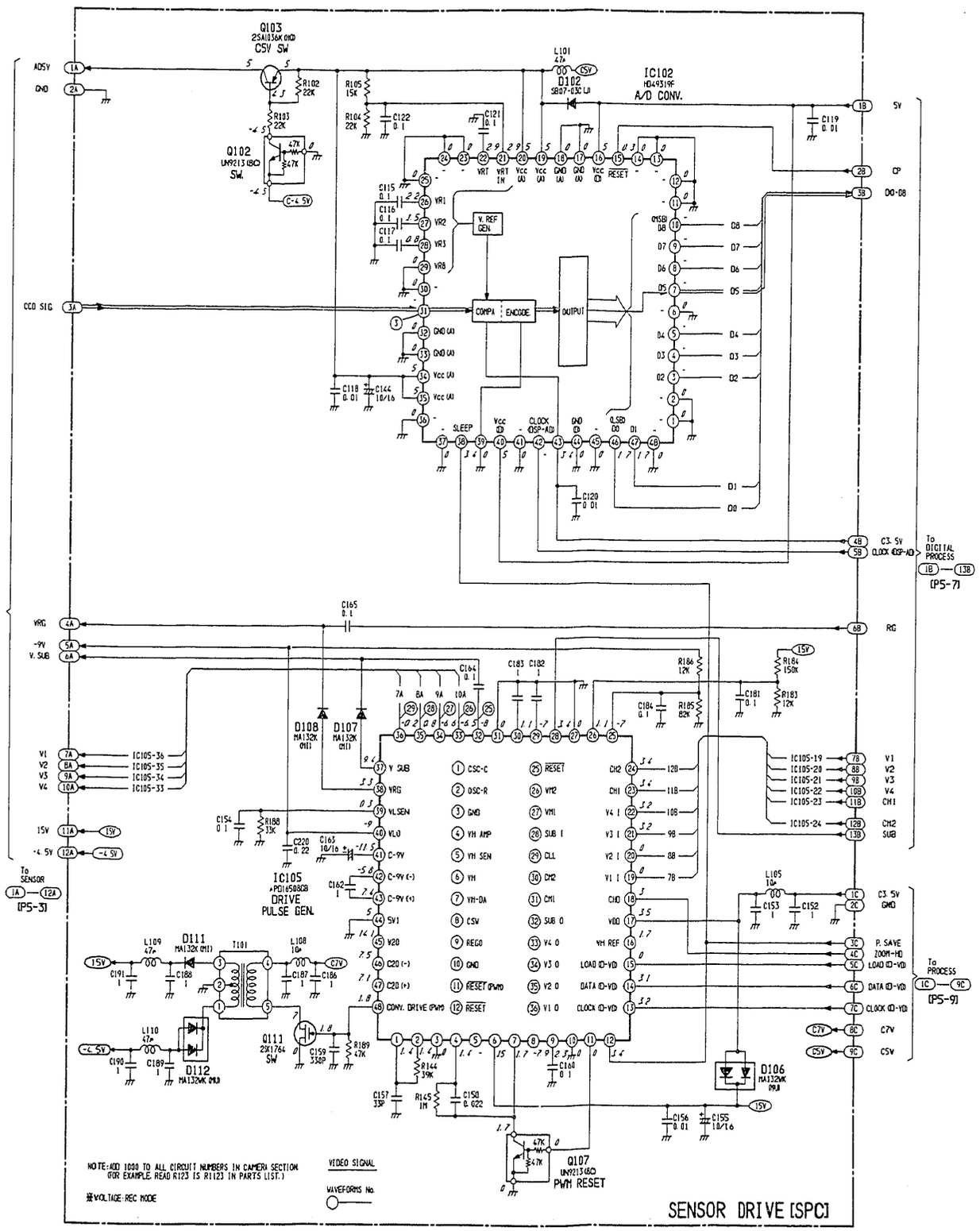
SENSOR [SPC] SCHEMATIC DIAGRAM



SENSOR/PROCESS WAVEFORMS

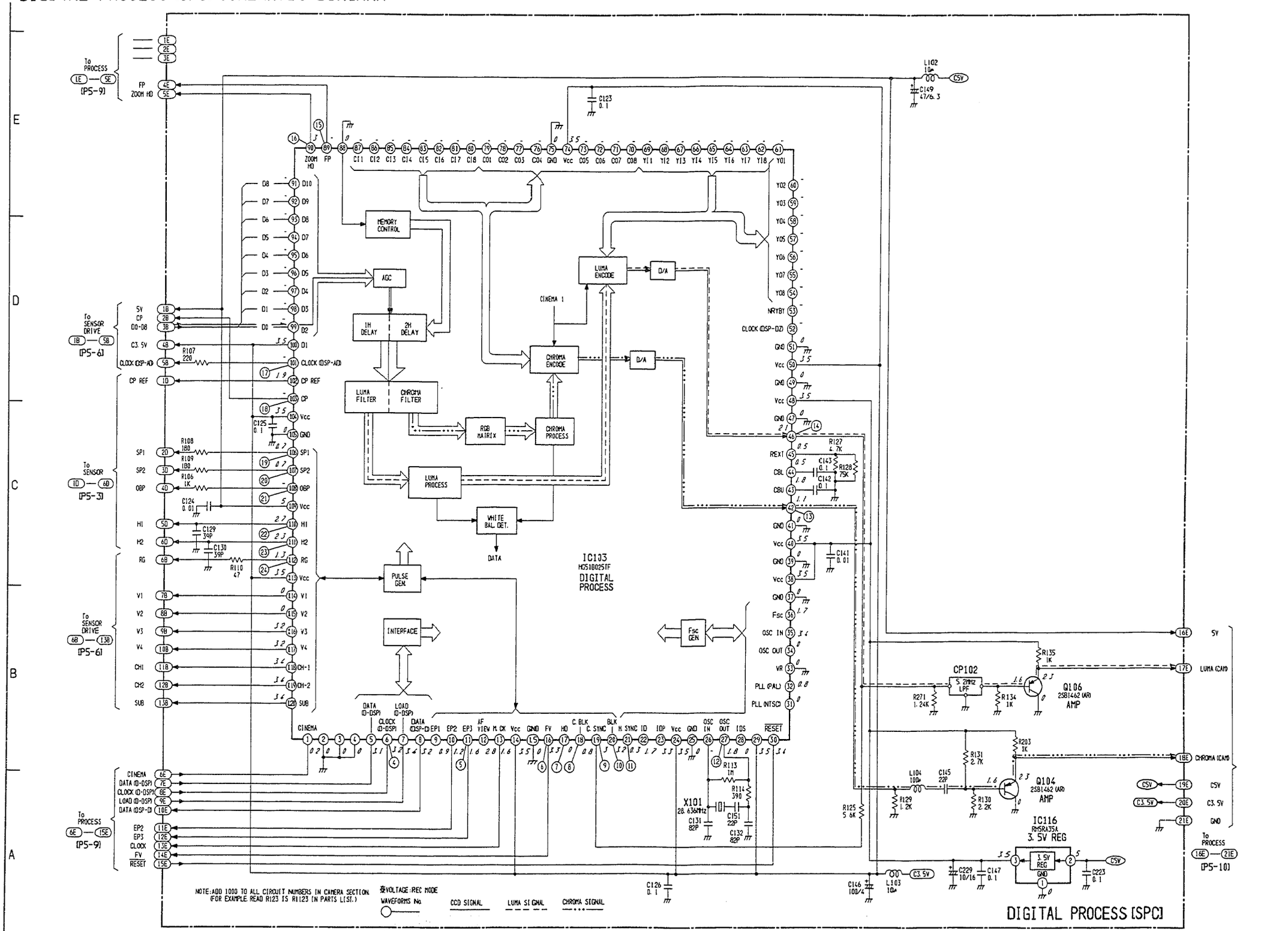
1-A IC1051-4 600mVp-p 0.2V/20.0μ sec. cm COLOR CHART	9-A IC1103-19 3.5Vp-p 1V/20.0μ sec. cm	17-A IC1103-101 4.0Vp-p 1V/100nsec. cm	25-A IC1105-32 23Vp-p 5V/5.0msec. cm
			
2-A IC1101-3 670mVp-p 0.2V/20.0μ sec. cm COLOR CHART	10-A IC1103-20 3.5Vp-p 1V/5.0msec. cm	18-A IC1103-103 3.5Vp-p 1V/20.0μ sec. cm	26-A IC1105-33 8.2Vp-p 2V/20.0μ sec. cm
			
3-A IC1102-31 1.6Vp-p 0.5V/20.0μ sec. cm COLOR CHART	11-A IC1103-21 3.5Vp-p 1V/20.0μ sec. cm	19-A IC1103-106 3.8Vp-p 1V/50.0nsec. cm	27-A IC1105-34 7.0Vp-p 2V/20.0μ sec. cm
			
4-A IC1103-6 3.5Vp-p 1V/10.0μ sec. cm	12-A IC1103-27 2.5Vp-p 1V/20.0nsec. cm	20-A IC1103-107 3.8Vp-p 1V/50.0nsec. cm	28-A IC1105-35 8.2Vp-p 2V/20.0μ sec. cm
			
5-A IC1103-11 4.5Vp-p 1V/200nsec. cm	13-A IC1103-42 740mVp-p 0.2V/20.0μ sec. cm COLOR CHART	21-A IC1103-108 3.5Vp-p 1V/20.0μ sec. cm	29-A IC1105-36 7.2Vp-p 2V/20.0μ sec. cm
			
6-A IC1103-16 3.5Vp-p 1V/5.0msec. cm	14-A IC1103-46 1Vp-p 0.2V/20.0μ sec. cm COLOR CHART	22-A IC1103-110 7.0Vp-p 2V/100nsec. cm	30-A IC1106-72 3.6Vp-p 1V/5.0msec. cm
			
7-A IC1103-17 1.2Vp-p 0.5V/20.0μ sec. cm	15-A IC1103-89 3.4Vp-p 1V/10.0msec. cm	23-A IC1103-111 7.0Vp-p 2V/100nsec. cm	31-A IC1112-3 5.4Vp-p 2V/5.0msec. cm
			
8-A IC1103-18 3.5Vp-p 1V/20.0μ sec. cm	16-A IC1103-90 3.1Vp-p 1V/20.0μ sec. cm	24-A IC1103-112 5.8Vp-p 2V/100nsec. cm	
			

SENSOR DRIVE [SPC] SCHEMATIC DIAGRAM



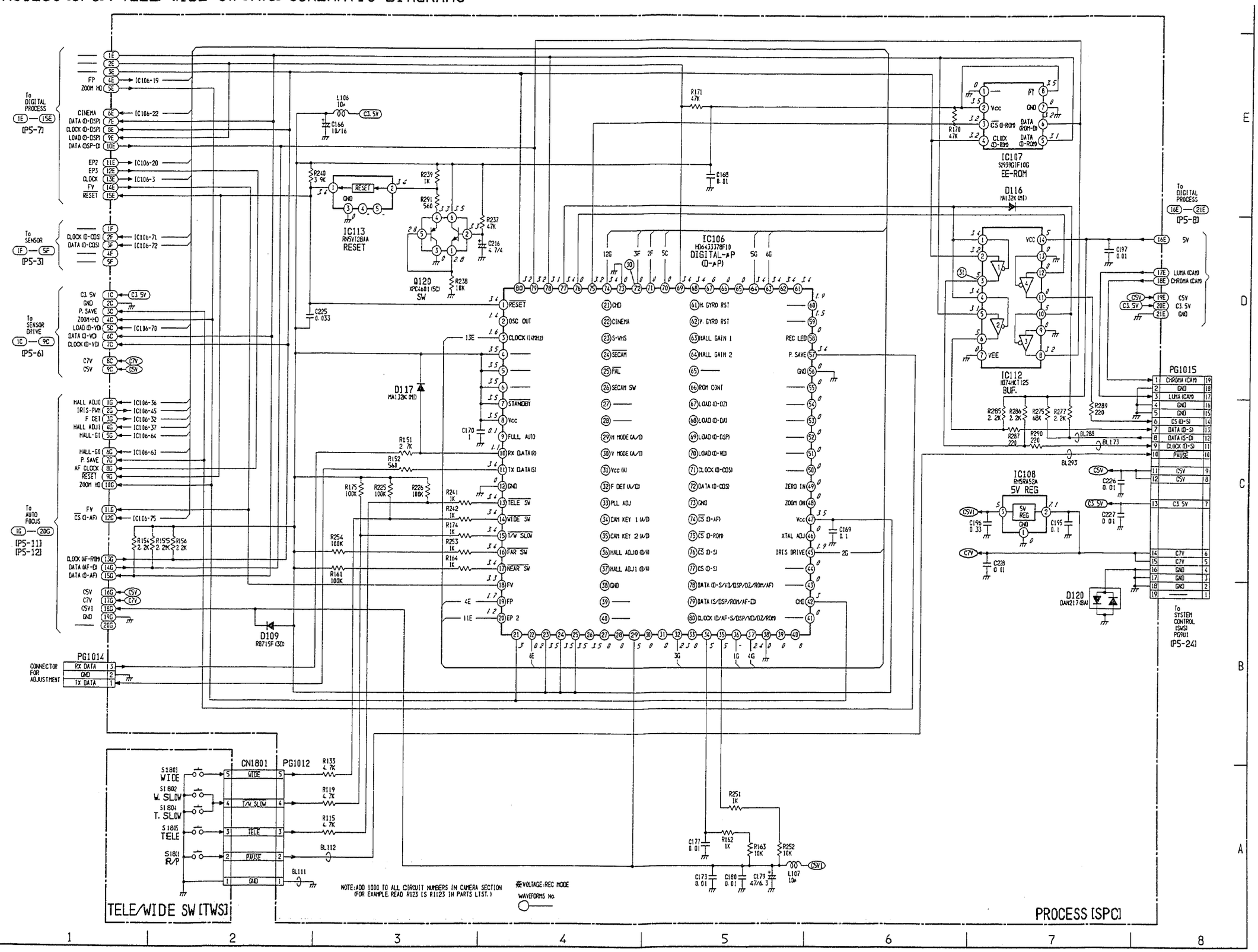
SENSOR DRIVE 5-5 5-6 SENSOR DRIVE

DIGITAL PROCESS [SPC] SCHEMATIC DIAGRAM

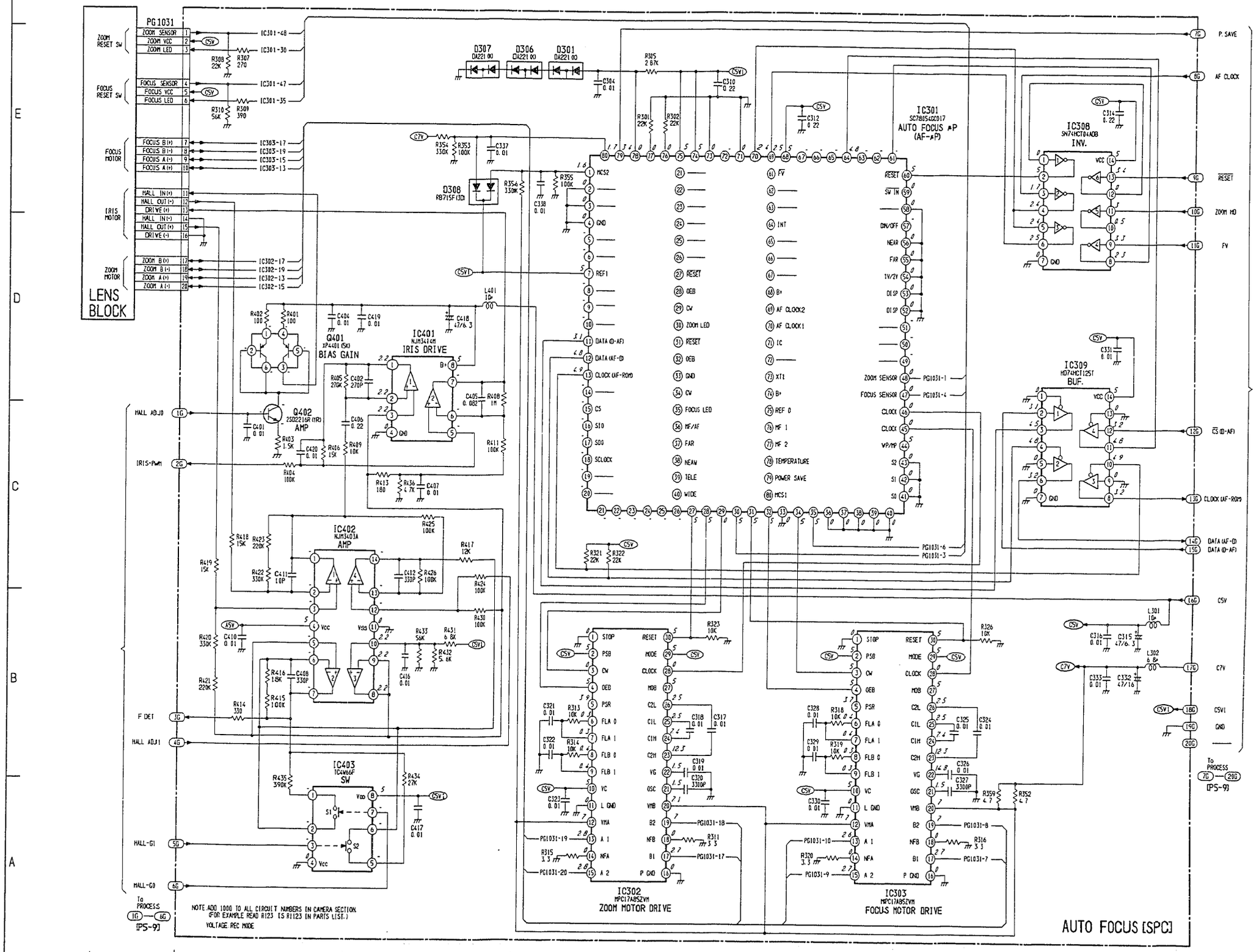


DIGITAL PROCESS 5-7 5-8 DIGITAL PROCESS

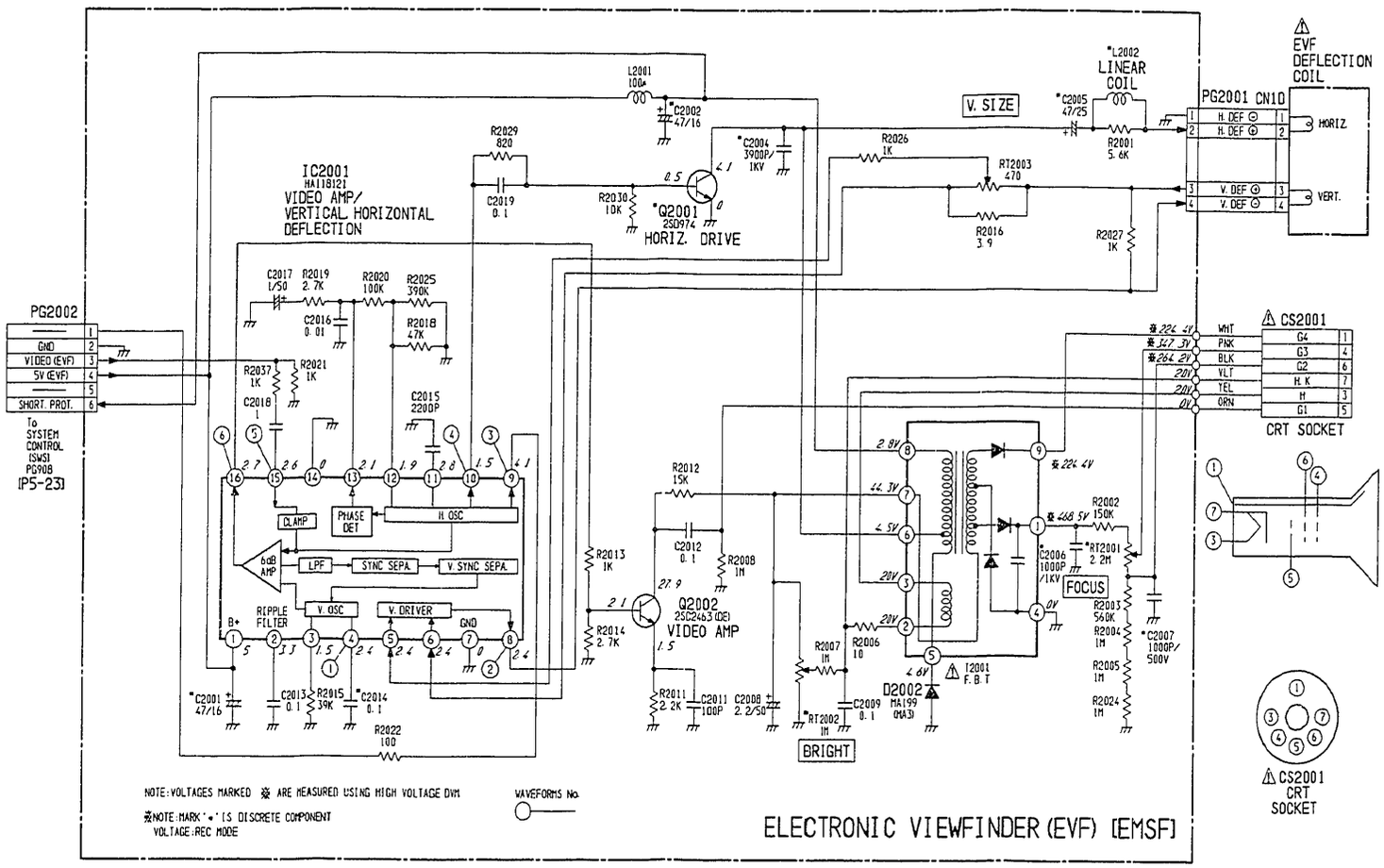
PROCESS [SPC]. TELE/WIDE SW [TWS] SCHEMATIC DIAGRAMS



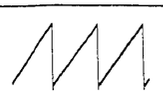
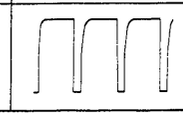
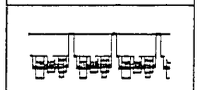
AUTO FOCUS [SPC] SCHEMATIC DIAGRAM



ELECTRONIC VIEWFINDER [EMSF] SCHEMATIC DIAGRAM



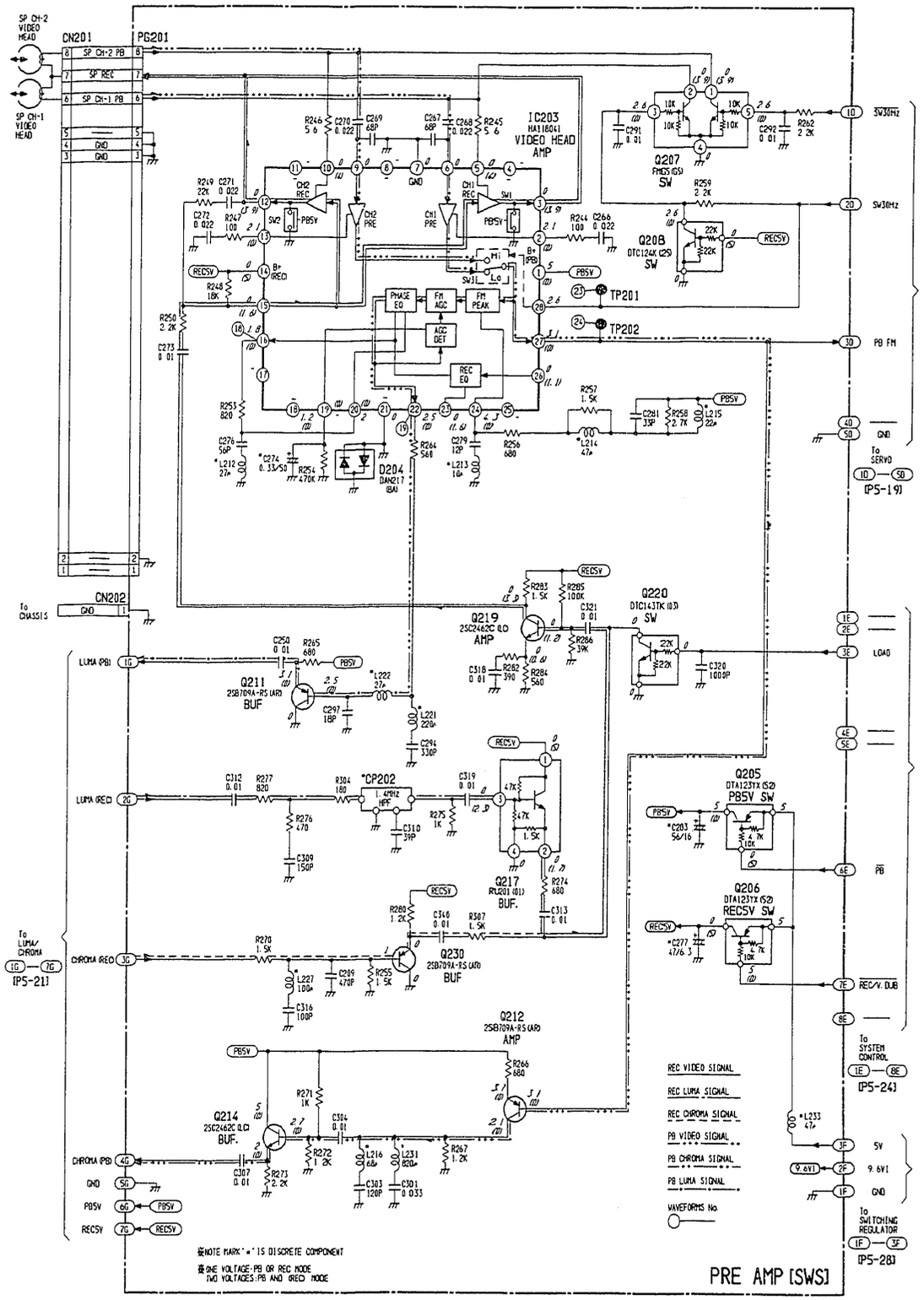
ELECTRONIC VIEWFINDER WAVEFORMS

1-A IC2001-4 990mVp-p 0.2V/5.0msec.cm	2-A IC2001-8 2.2Vp-p 0.5V/5.0msec.cm	3-A IC2001-9 5.0Vp-p 1V/20.0μ sec.cm	4-A IC2001-10 2.0Vp-p 0.5V/20.0μ sec.cm	5-A IC2001-15 1.2Vp-p 0.2V/20.0μ sec.cm COLOR CHART
				
6-A IC2001-16 3.8Vp-p 1V/20.0μ sec.cm COLOR CHART				
				

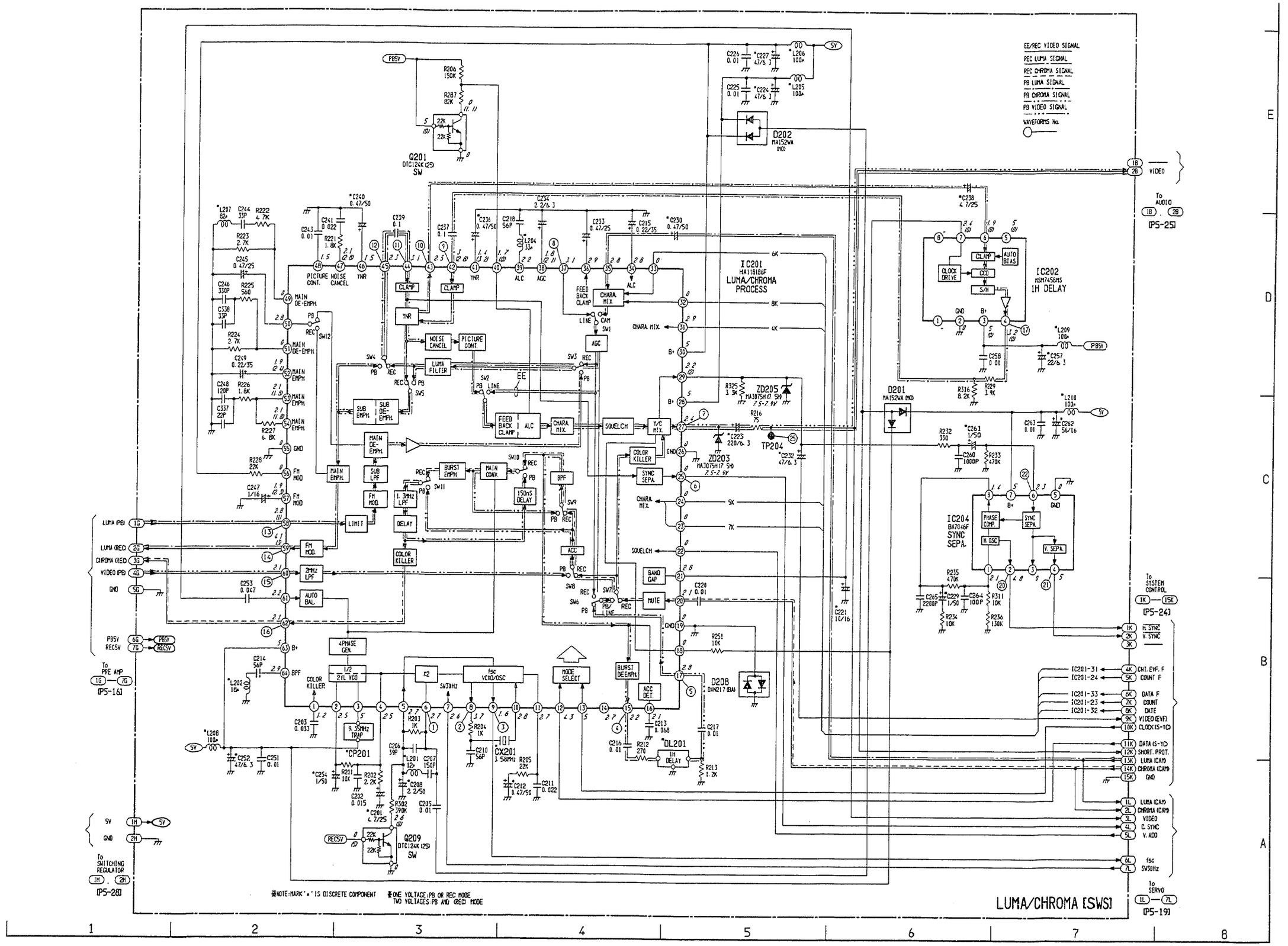
LUMA/CHROMA WAVEFORMS

1-A IC201-6 320mVp-p 0.1V/100nsec.cm REC/PLAY	7-A IC201-27 2.0Vp-p 0.5V/20.0μ sec.cm REC/PLAY	14-A IC201-59 870mVp-p 0.5V/5.0msec.cm REC	22-A IC204-6 930mVp-p 0.2V/20.0μ sec.cm REC
2-A IC201-8 1.3Vp-p 0.5V/200nsec.cm REC/PLAY	8-A IC201-37 840mVp-p 0.2V/20.0μ sec.cm REC	15-B IC201-60 130mVp-p 0.1V/5.0msec.cm PLAY	22-B IC204-6 830mVp-p 0.2V/20.0μ sec.cm PLAY
3-A IC201-9 520mVp-p 0.1V/200nsec.cm REC/PLAY	9-A IC201-42 600mVp-p 0.2V/20.0μ sec.cm REC/PLAY	16-A IC201-62 440mVp-p 0.1V/20.0μ sec.cm REC	23-A TP201 5.3Vp-p 1V/5.0msec.cm REC/PLAY
4-A IC201-15 340mVp-p 0.1V/20.0μ sec.cm REC	10-A IC201-43 800mVp-p 0.2V/20.0μ sec.cm REC	17-B IC202-4 800mVp-p 0.2V/20.0μ sec.cm PLAY	24-B TP202 230mVp-p 0.1V/5.0msec.cm PLAY
4-B IC201-15 760mVp-p 0.2V/20.0μ sec.cm PLAY	10-B IC201-43 520mVp-p 0.1V/20.0μ sec.cm PLAY	18-B IC203-16 140mVp-p 0.1V/5.0msec.cm PLAY	25-A TP204 2.1Vp-p 0.5V/20.0μ sec.cm REC/PLAY
5-A IC201-17 150mVp-p 50mV/20.0μ sec.cm REC	11-A IC201-44 500mVp-p 0.1V/20.0μ sec.cm REC/PLAY	19-B IC203-22 310mVp-p 0.2V/5.0msec.cm PLAY	
5-B IC201-17 330mVp-p 0.1V/20.0μ sec.cm PLAY	12-A IC201-45 500mVp-p 0.1V/20.0μ sec.cm REC/PLAY	20-A IC204-2 5.2Vp-p 1V/20.0μ sec.cm REC/PLAY	
6-A IC201-25 5.0Vp-p 1V/20.0μ sec.cm REC/PLAY	13-B IC201-58 430mVp-p 0.2V/5.0msec.cm PLAY	21-A IC204-4 5.2Vp-p 1V/5.0msec.cm REC/PLAY	

PRE AMP [SWS] SCHEMATIC DIAGRAM

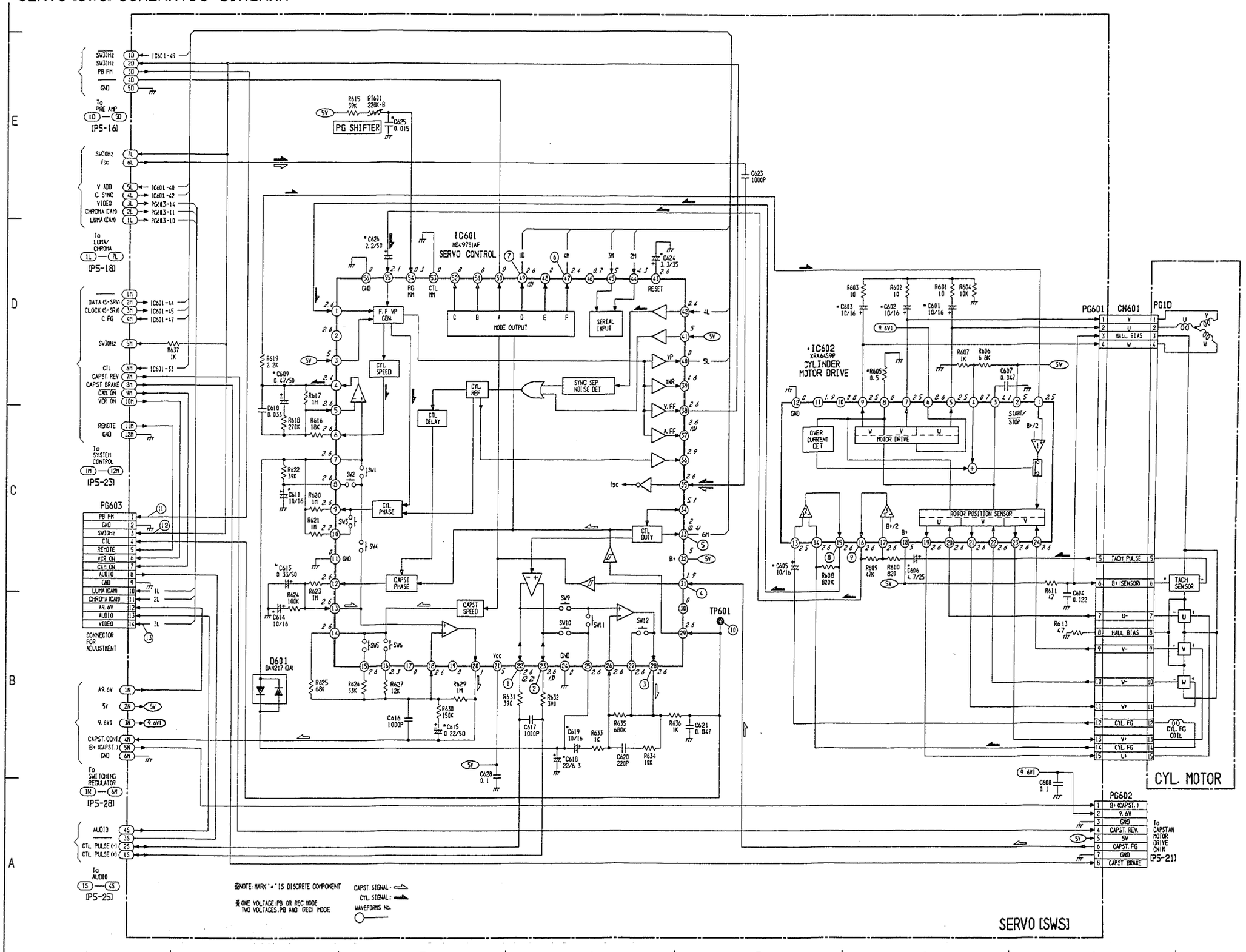


LUMA/CHROMA [SWS] SCHEMATIC DIAGRAM



LUMA/CHROMA 5-17 5-18 LUMA/CHROMA

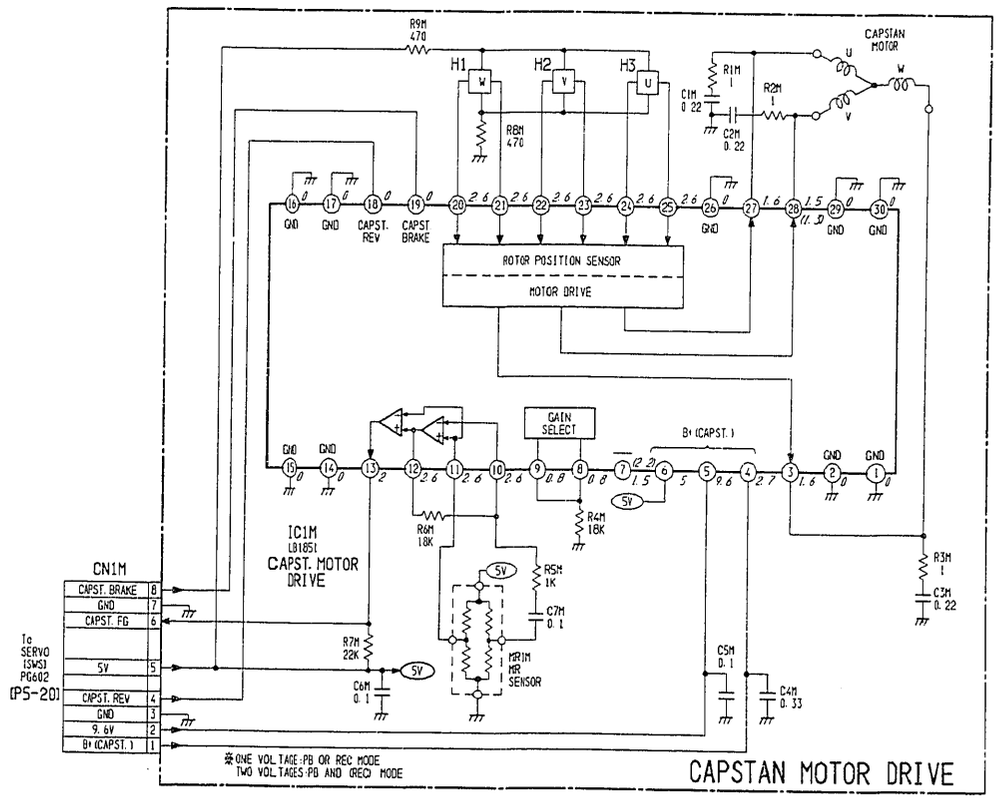
SERVO [SWS] SCHEMATIC DIAGRAM



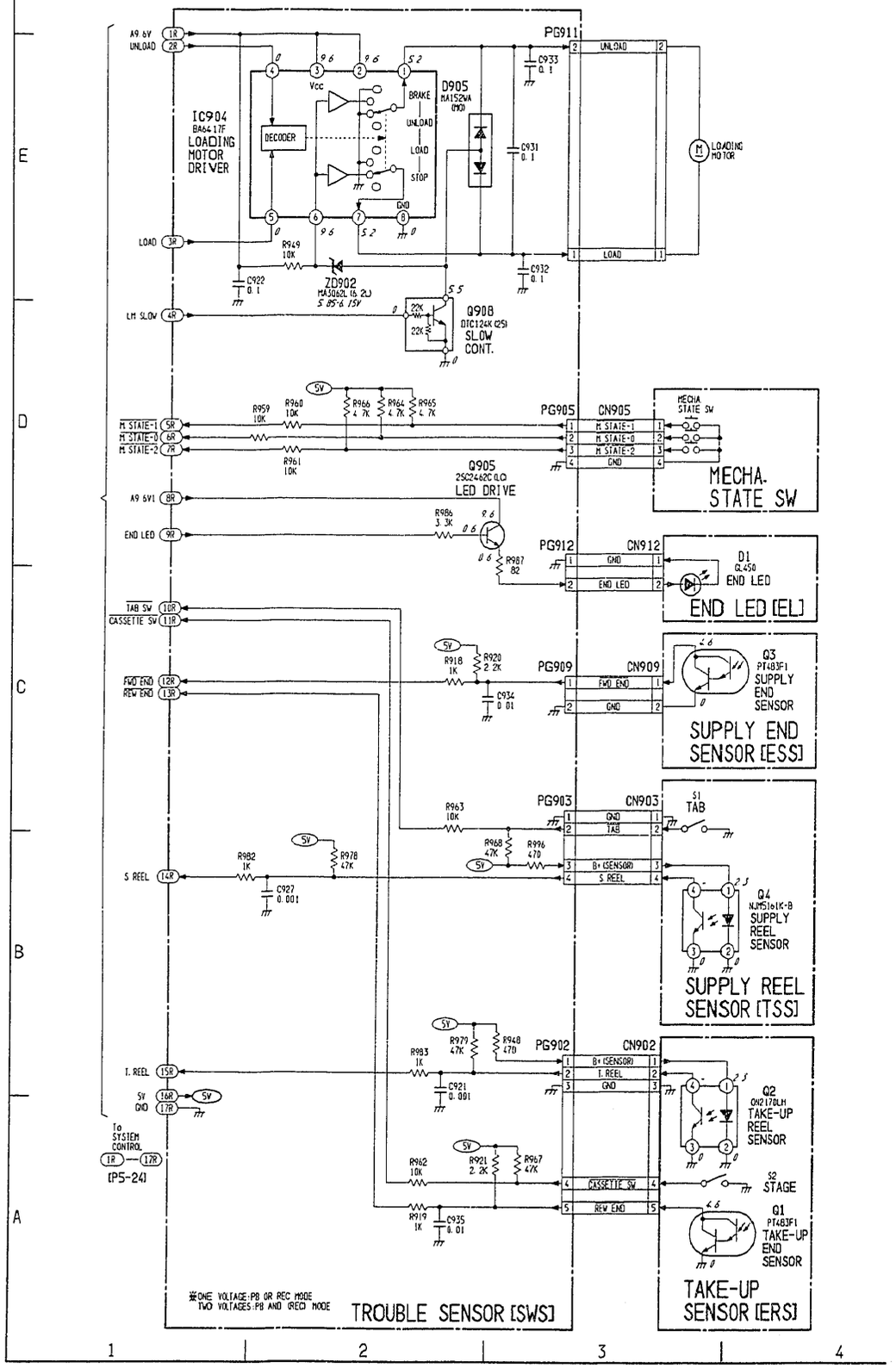
SERVO WAVEFORMS

1-A IC601-22 3.7Vp-p 1V/10.0msec.cm REC	2-A IC601-23 3.7Vp-p 1V/10.0msec.cm REC	3-B IC601-28 2.9Vp-p 1V/10.0msec.cm PLAY	4-A IC601-31 4.0Vp-p 1V/200μsec.cm REC/PLAY	5-A IC601-33 5.2Vp-p 1V/10.0msec.cm REC
5-B IC601-33 5.2Vp-p 1V/10.0msec.cm PLAY	6-A IC601-47 5.2Vp-p 1V/200μsec.cm REC/PLAY	7-B IC601-49 5.3Vp-p 1V/5.0msec.cm PLAY	8-A IC602-15 3.5Vp-p 1V/1.0msec.cm REC/PLAY	9-A IC602-16 2.2Vp-p 0.5V/10.0msec.cm REC/PLAY
10-B TP601 2.7Vp-p 1V/10.0msec.cm PLAY	11-B PG603-1 200mVp-p 0.1V/5.0msec.cm PLAY	12-A PG603-3 5.3Vp-p 1V/5.0msec.cm REC/PLAY	13-A PG603-14 2.1Vp-p 0.5V/20.0μsec.cm REC/PLAY	

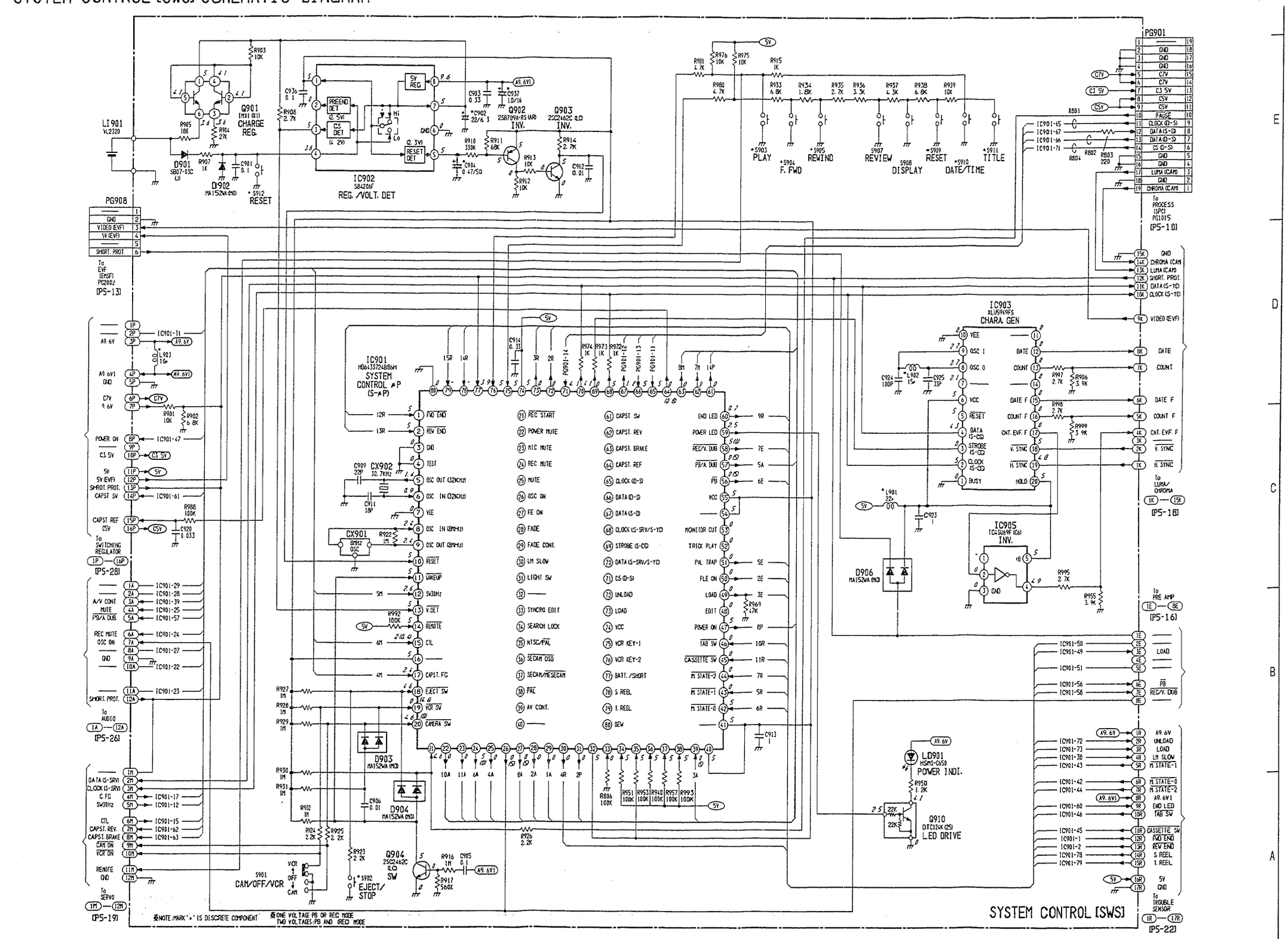
CAPSTAN MOTOR DRIVE SCHEMATIC DIAGRAM



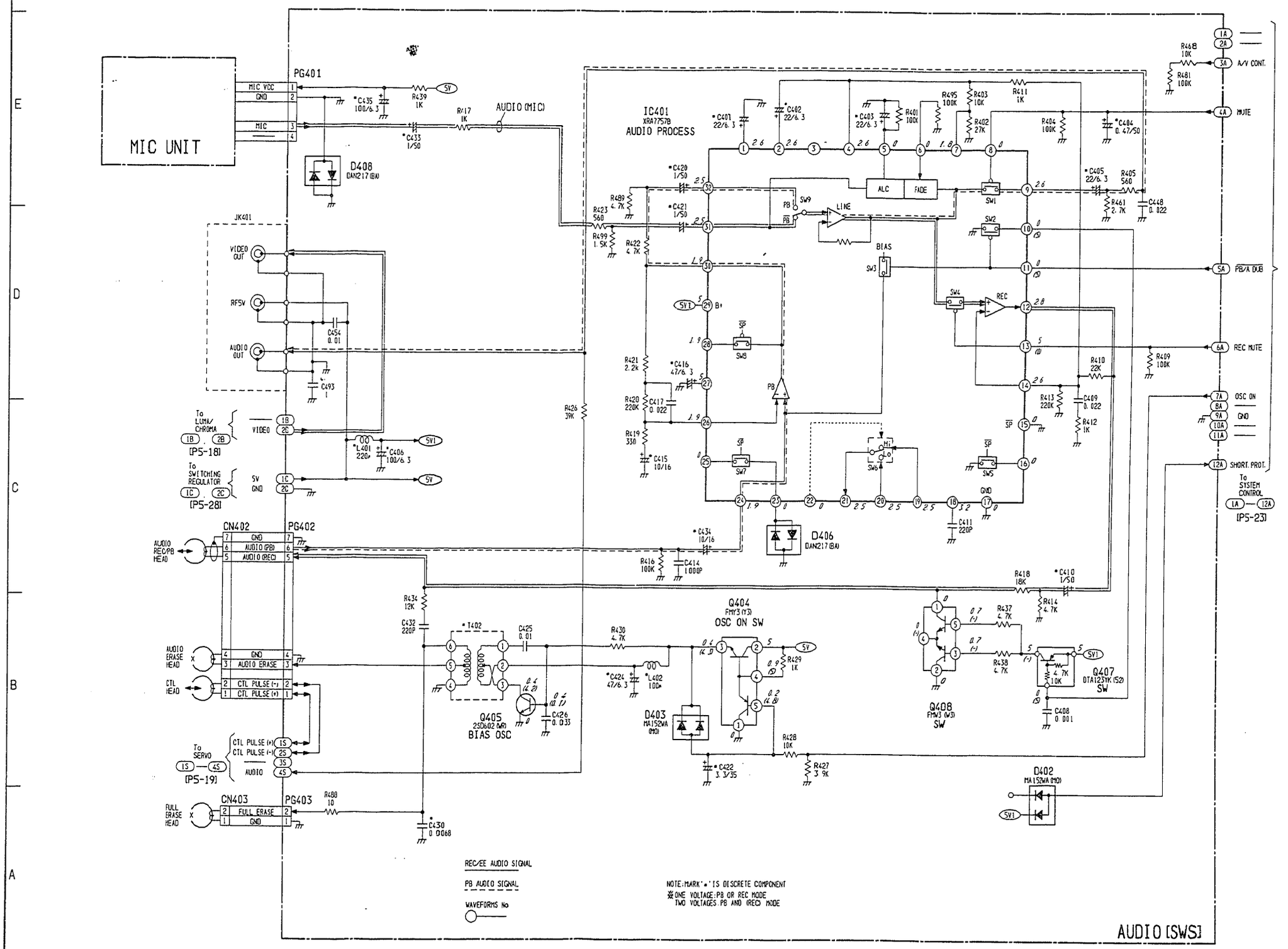
TROUBLE SENSOR [SWS] SCHEMATIC DIAGRAM



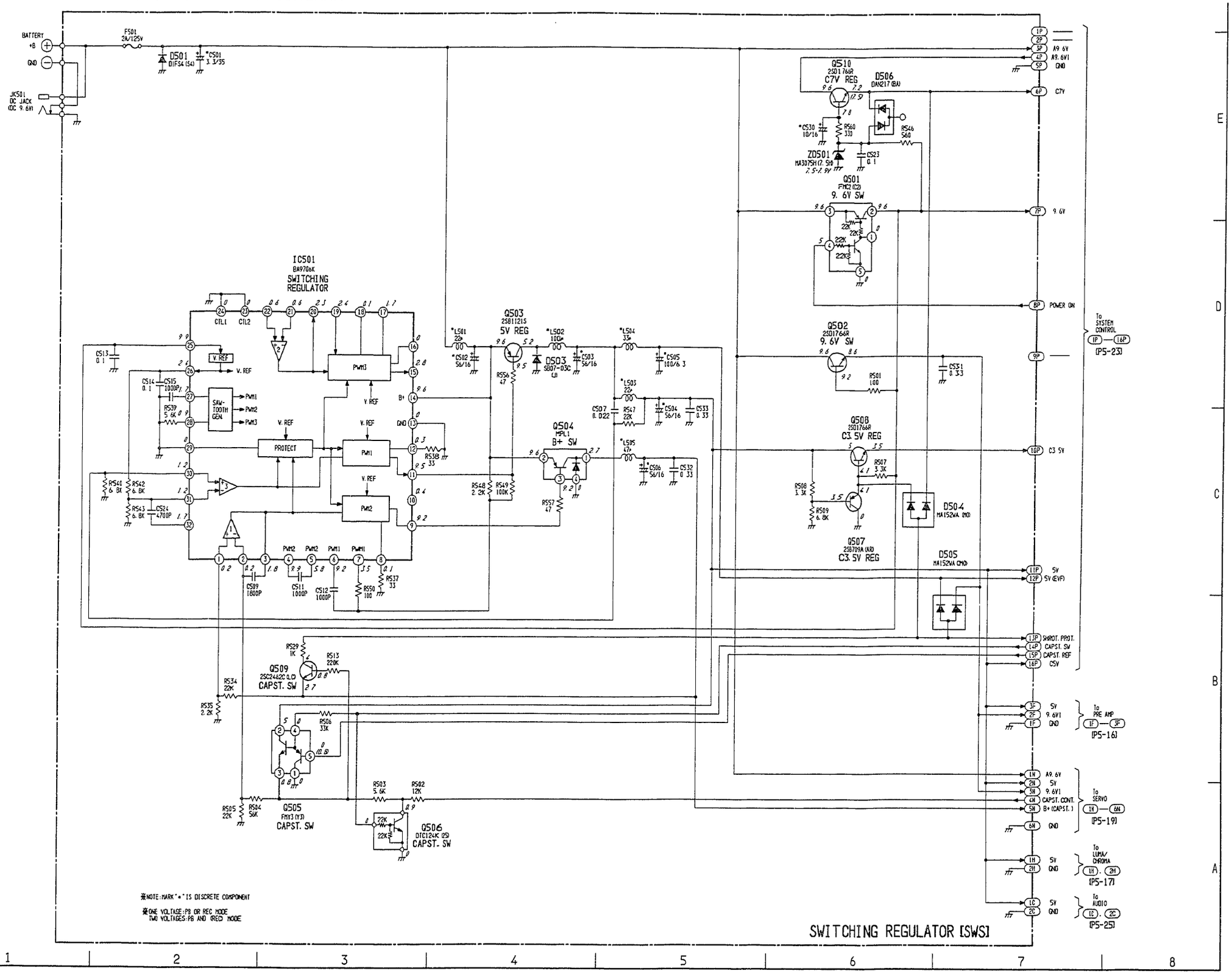
SYSTEM CONTROL [SWS] SCHEMATIC DIAGRAM



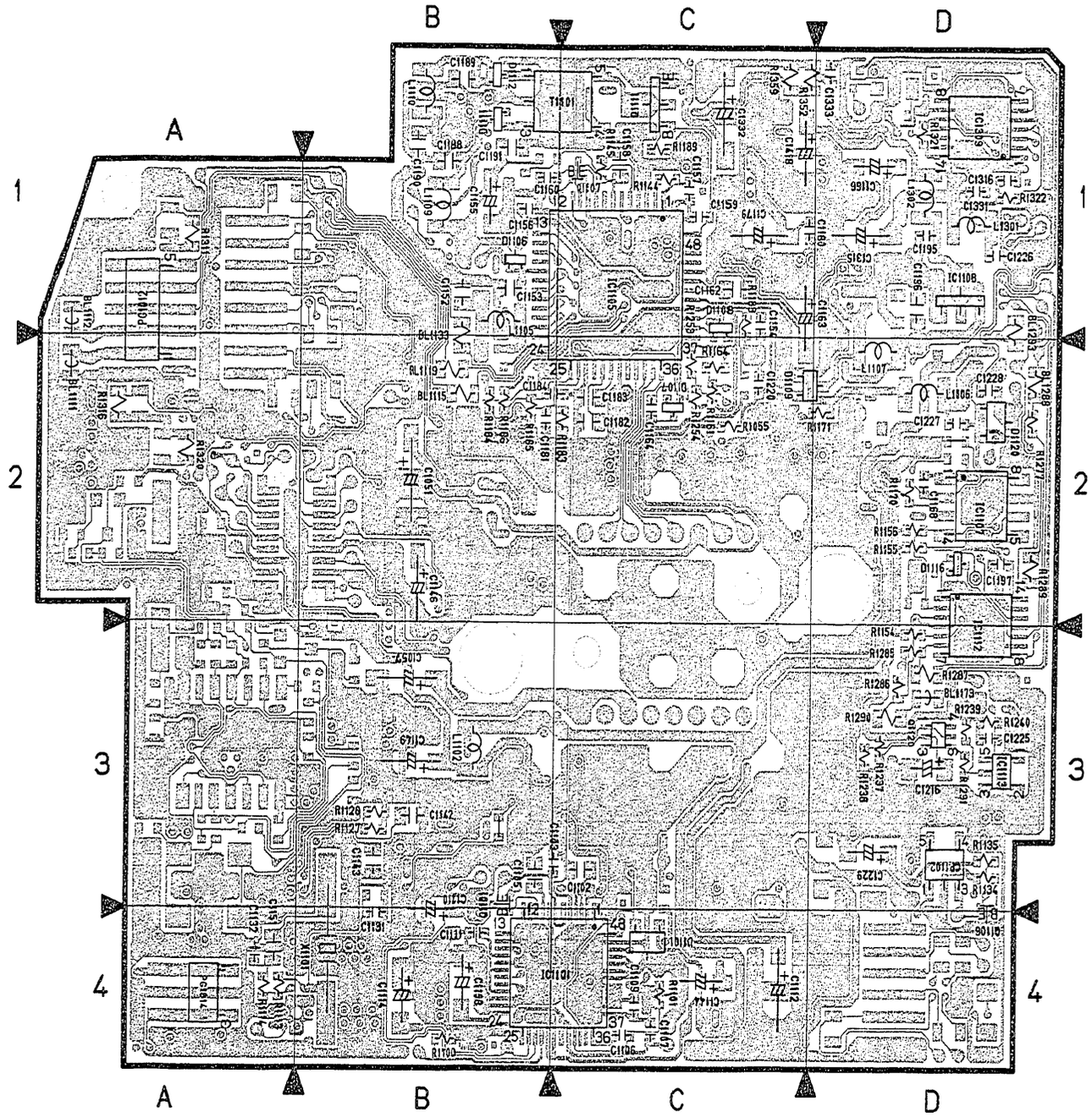
AUDIO [SWS] SCHEMATIC DIAGRAM



SWITCHING REGULATOR [SWS] SCHEMATIC DIAGRAM



SPC CIRCUIT BOARD [SIDE A]



SPC[SENSOR/PROCESS]-SIDE A-

[PATTERN No.JA1011-7]

IDENTIFICATION OF PARTS LOCATION

SPC [SENSOR/PROCESS]

Symbol No.	Parts Location
BL	
BL1111	A-2A
BL1112	A-1A
BL1115	A-2B
BL1119	A-2B
BL1133	A-2B
BL1173	A-3D
BL1288	A-2D
BL1293	A-1D
C	
C1051	A-2B
C1052	B-2C
C1053	B-2C
C1054	B-3C
C1055	B-3C
C1057	A-3B
C1058	B-3C
C1059	B-3C
C1060	B-3B
C1061	B-3C
C1101	B-3C
C1102	A-3C
C1103	A-3C
C1104	B-4C
C1105	A-3B
C1106	A-4C
C1106	A-4C
C1107	A-4C
C1108	A-4B
C1110	A-3B
C1111	A-4B
C1112	A-4C
C1113	B-4B
C1114	A-4B
C1115	B-3C
C1116	B-3C
C1117	B-3C
C1118	B-3C
C1119	B-4C
C1120	B-4C
C1121	B-3C
C1122	B-3B
C1123	B-3B
C1124	B-4B
C1125	B-4B
C1126	B-4A
C1129	B-4B
C1130	B-4B
C1131	A-4B
C1132	A-4A
C1137	B-4C
C1141	B-4A
C1142	A-3B
C1143	A-3B
C1144	A-4C
C1145	B-3D
C1146	A-2B
C1147	B-3C
C1148	B-2A
C1149	A-3B
C1151	A-4A
C1152	A-1B
C1153	A-1B
C1154	A-1C
C1155	A-1B
C1156	A-1B
C1157	A-1C
C1158	A-1C
C1159	A-1C
C1160	A-1B
C1162	A-1C
C1163	A-1C
C1164	A-2C
C1165	B-3C
C1166	A-1D
C1168	A-2D
C1169	B-2D
C1170	B-2C
C1173	B-1C
C1177	B-1D
C1179	A-1C
C1180	A-1C
C1181	A-2B
C1182	A-2C
C1183	A-2C
C1184	A-2B
C1186	B-1C
C1187	B-1C
C1188	A-1B
C1189	A-1B
C1190	A-1B
C1191	A-1B
C1195	A-1D
C1196	A-1D
C1197	A-2D
C1216	A-3D
C1220	A-2C
C1223	B-4C
C1226	A-1D
C1227	A-2D
C1228	A-2D
C1255	A-3D
C1299	A-3D
C1304	B-1B
C1310	B-1B
C1312	B-1B
C1314	B-1B
C1315	A-1D
C1316	A-1D
C1317	B-1A
C1318	B-1A
C1319	B-1A
C1320	B-1A
C1321	B-2B
C1322	B-2B
C1323	B-2A
C1324	B-2B
C1325	B-2B
C1326	B-2A
C1327	B-2A
C1328	B-2B
C1329	B-2B
C1330	B-2B
C1331	A-1D
C1332	A-1C
C1333	A-1D
C1337	B-1C
C1338	B-1C
C1401	B-1C
C1402	B-1D
C1403	B-1D
C1404	B-1D
C1405	B-1D
C1406	B-1D
C1407	B-1D
C1408	B-3D
C1410	B-3D
C1411	B-3D
C1412	B-2D
C1416	B-2D
C1417	B-2D
C1418	A-1C
C1419	B-1C
C1420	B-1D
C1421	B-1D
CP	
CP1102	A-3D
D	
D1101	A-4C
D1102	B-3B
D1106	A-1B
D1107	A-2C
D1108	A-1C
D1109	A-2C
D1111	A-1B
D1112	A-1B
D1116	A-2D
D1117	B-2C
D1120	A-2D
D1301	B-1C
D1306	B-1C
D1307	B-1B
D1308	B-1C
IC	
IC1101	A-4C
IC1102	B-3C
IC1103	B-4B
IC1105	A-1C
IC1106	B-2C
IC1107	A-2D
IC1108	A-1D
IC1112	A-3D
IC1113	A-3D
IC1116	B-4C
IC1301	B-2B
IC1302	B-1A
IC1303	B-2A
IC1308	B-1B
IC1309	A-1D
IC1401	B-1D
IC1402	B-3D
IC1403	B-2D
L	
L1101	B-3B
L1102	A-3B
L1103	B-2B
L1104	B-3D
L1105	A-1B
L1106	A-2D
L1107	A-2D
L1108	B-1C
L1109	A-1B
L1110	A-1B
L1301	A-1D
L1302	A-1D
L1401	B-1C
PC	
PG1012	A-1A
PG1014	A-4A
PG1015	B-1D
PG1031	B-2A
Q	
Q1053	B-3C
Q1101	A-3B
Q1102	B-3B
Q1103	B-3B
Q1104	B-4D
Q1106	A-4D
Q1107	A-1C
Q1111	A-1C
Q1120	A-3D
Q1401	B-1C
Q1402	B-1C
R	
R1054	B-2C
R1055	A-2C
R1057	B-3C
R1058	B-3C
R1059	B-3C
R1100	A-4B
R1101	A-4C
R1102	B-3B
R1103	B-3B
R1104	B-3C
R1105	B-3C
R1106	B-3B
R1107	B-3B
R1108	B-4B
R1109	B-4B
R1110	B-4B
R1113	A-4A
R1114	A-4A
R1125	B-3A
R1127	A-3B
R1128	A-3B
R1129	B-3C
R1130	B-4D
R1131	B-4D
R1134	A-3D
R1135	A-3D
R1144	A-1C
R1145	A-1C
R1151	B-2C
R1152	B-2C
R1154	A-3D
R1155	A-2D
R1156	A-2D
R1161	A-2C
R1162	B-1C
R1163	B-1C
R1164	A-2C
R1167	B-1C
R1170	A-2D
R1171	A-2D
R1172	B-3D
R1174	B-1C
R1175	B-1C
R1183	A-2C
R1184	A-2B
R1185	A-2B
R1186	A-2B
R1188	A-1C
R1189	A-1C
R1203	B-4D
R1225	B-1C
R1226	B-1C
R1237	A-3D
R1238	A-3D
R1239	A-3D
R1240	A-3D
R1241	B-1C
R1242	B-1C
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R1252	B-1C
R1253	A-2C
R1254	A-2C
R1271	B-3A
R1275	B-2D
R1277	A-2D
R1285	A-3D
R1286	A-3D
R1287	A-3D
R1289	A-2D
R1290	A-3D
R1291	A-3D
R1301	B-1B
R1302	B-1B
R1305	B-1B
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R1308	B-1A
R1309	B-1A
R1310	B-1A
R1311	A-1A
R1313	B-2B
R1314	B-2B
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R1316	A-2A
R1318	B-2A
R1319	B-2A
R1320	A-2A
R1321	A-1D
R1322	A-1D
R1323	B-1B
R1326	B-2B
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R1356	B-1C
R1359	A-1C
R1401	B-1C
R1402	B-1C
R1403	B-1C
R1404	B-1D
R1405	B-1D
R1406	B-1D
R1407	B-2D
R1408	B-1D
R1409	B-1D
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R1414	B-3D
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R1419	B-3D
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R1423	B-3D
R1424	B-2D
R1425	B-3D
R1426	B-2D
R1430	B-2D
R1431	B-3D
R1432	B-2D
R1433	B-2D
R1434	B-3D
R1435	B-3D
R1436	B-1D
T	
T1101	A-1B
X	
X1101	A-4B

IDENTIFICATION OF PARTS LOCATION

SPC [SENSOR/PROCESS]

Symbol No.	Parts Location
BL	
BL1111	A-2A
BL1112	A-1A
BL1115	A-2B
BL1119	A-2B
BL1133	A-2B
BL1173	A-3D
BL1288	A-2D
BL1293	A-1D
C	
C1051	A-2B
C1052	B-2C
C1053	B-2C
C1054	B-3C
C1055	B-3C
C1057	A-3B
C1058	B-3C
C1059	B-3C
C1060	B-3B
C1061	B-3C
C1101	B-3C
C1102	A-3C
C1103	A-3C
C1104	B-4C
C1105	A-3B
C1106	A-4C
C1106	A-4C
C1107	A-4C
C1108	A-4B
C1110	A-3B
C1111	A-4B
C1112	A-4C
C1113	B-4B
C1114	A-4B
C1115	B-3C
C1116	B-3C
C1117	B-3C
C1118	B-3C
C1119	B-4C
C1120	B-4C
C1121	B-3C
C1122	B-3B
C1123	B-3B
C1124	B-4B
C1125	B-4B
C1126	B-4A
C1129	B-4B
C1130	B-4B
C1131	A-4B
C1132	A-4A
C1137	B-4C
C1141	B-4A
C1142	A-3B
C1143	A-3B
C1144	A-4C
C1145	B-3D
C1146	A-2B
C1147	B-3C
C1148	B-2A
C1149	A-3B
C1151	A-4A
C1152	A-1B
C1153	A-1B
C1154	A-1C
C1155	A-1B
C1156	A-1B
C1157	A-1C
C1158	A-1C
C1159	A-1C
C1160	A-1B
C1162	A-1C
C1163	A-1C
C1164	A-2C
C1165	B-3C
C1166	A-1D
C1168	A-2D
C1169	B-2D
C1170	B-2C
C1173	B-1C
C1177	B-1D
C1179	A-1C
C1180	A-1C
C1181	A-2B
C1182	A-2C
C1183	A-2C
C1184	A-2B
C1186	B-1C
C1187	B-1C
C1188	A-1B
C1189	A-1B
C1190	A-1B
C1191	A-1B
C1195	A-1D
C1196	A-1D
C1197	A-2D
C1216	A-3D
C1220	A-2C
C1223	B-4C
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C1227	A-2D
C1228	A-2D
C1255	A-3D
C1299	A-3D
C1304	B-1B
C1310	B-1B
C1312	B-1B
C1314	B-1B
C1315	A-1D
C1316	A-1D
C1317	B-1A
C1318	B-1A
C1319	B-1A
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C1323	B-2A
C1324	B-2B
C1325	B-2B
C1326	B-2A
C1327	B-2A
C1328	B-2B
C1329	B-2B
C1330	B-2B
C1331	A-1D
C1332	A-1C
C1333	A-1D
C1337	B-1C
C1338	B-1C
C1401	B-1C
C1402	B-1D
C1403	B-1D
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C1408	B-3D
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C1411	B-3D
C1412	B-2D
C1416	B-2D
C1417	B-2D
C1418	A-1C
C1419	B-1C
C1420	B-1D
C1421	B-1D
CP	
CP1102	A-3D
D	
D1101	A-4C
D1102	B-3B
D1106	A-1B
D1107	A-2C
D1108	A-1C
D1109	A-2C
D1111	A-1B
D1112	A-1B
D1116	A-2D
D1117	B-2C
D1120	A-2D
D1301	B-1C
D1306	B-1C
D1307	B-1B
D1308	B-1C
IC	
IC1101	A-4C
IC1102	B-3C
IC1103	B-4B
IC1105	A-1C
IC1106	B-2C
IC1107	A-2D
IC1108	A-1D
IC1112	A-3D
IC1113	A-3D
IC1116	B-4C
IC1301	B-2B
IC1302	B-1A
IC1303	B-2A
IC1308	B-1B
IC1309	A-1D
IC1401	B-1D
IC1402	B-3D
IC1403	B-2D
L	
L1101	B-3B
L1102	A-3B
L1103	B-2B
L1104	B-3D
L1105	A-1B
L1106	A-2D
L1107	A-2D
L1108	B-1C
L1109	A-1B
L1110	A-1B
L1301	A-1D
L1302	A-1D
L1401	B-1C
PC	
PG1012	A-1A
PG1014	A-4A
PG1015	B-1D
PG1031	B-2A
Q	
Q1053	B-3C
Q1101	A-3B
Q1102	B-3B
Q1103	B-3B
Q1104	B-4D
Q1106	A-4D
Q1107	A-1C
Q1111	A-1C
Q1120	A-3D
Q1401	B-1C
Q1402	B-1C
R	
R1054	B-2C
R1055	A-2C
R1057	B-3C
R1058	B-3C
R1059	B-3C
R1100	A-4B
R1101	A-4C
R1102	B-3B
R1103	B-3B
R1104	B-3C
R1105	B-3C
R1106	B-3B
R1107	B-3B
R1108	B-4B
R1109	B-4B
R1110	B-4B
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R1114	A-4A
R1125	B-3A
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R1128	A-3B
R1129	B-3C
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R1131	B-4D
R1134	A-3D
R1135	A-3D
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R1164	A-2C
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R1171	A-2D
R1172	B-3D
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R1175	B-1C
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R1186	A-2B
R1188	A-1C
R1189	A-1C
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R1226	B-1C
R1237	A-3D
R1238	A-3D
R1239	A-3D
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R1252	B-1C
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R1285	A-3D
R1286	A-3D
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R1291	A-3D
R1301	B-1B
R1302	B-1B
R1305	B-1B
R1307	B-1A
R1308	B-1A
R1309	B-1A
R1310	B-1A
R1311	A-1A
R1313	B-2B
R1314	B-2B
R1315	B-2A
R1316	A-2A
R1318	B-2A
R1319	B-2A
R1320	A-2A
R1321	A-1D
R1322	A-1D
R1323	B-1B
R1326	B-2B
R1352	A-1C
R1353	B-1C
R1354	B-1C
R1355	B-1C
R1356	B-1C
R1359	A-1C
R1401	B-1C
R1402	B-1C
R1403	B-1C
R1404	B-1D
R1405	B-1D
R1406	B-1D
R1407	B-2D
R1408	B-1D
R1409	B-1D
R1411	B-1D
R1413	B-1D
R1414	B-3D
R1415	B-3D
R1416	B-3D
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R1418	B-3D
R1419	B-3D
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R1421	B-3D
R1422	B-3D
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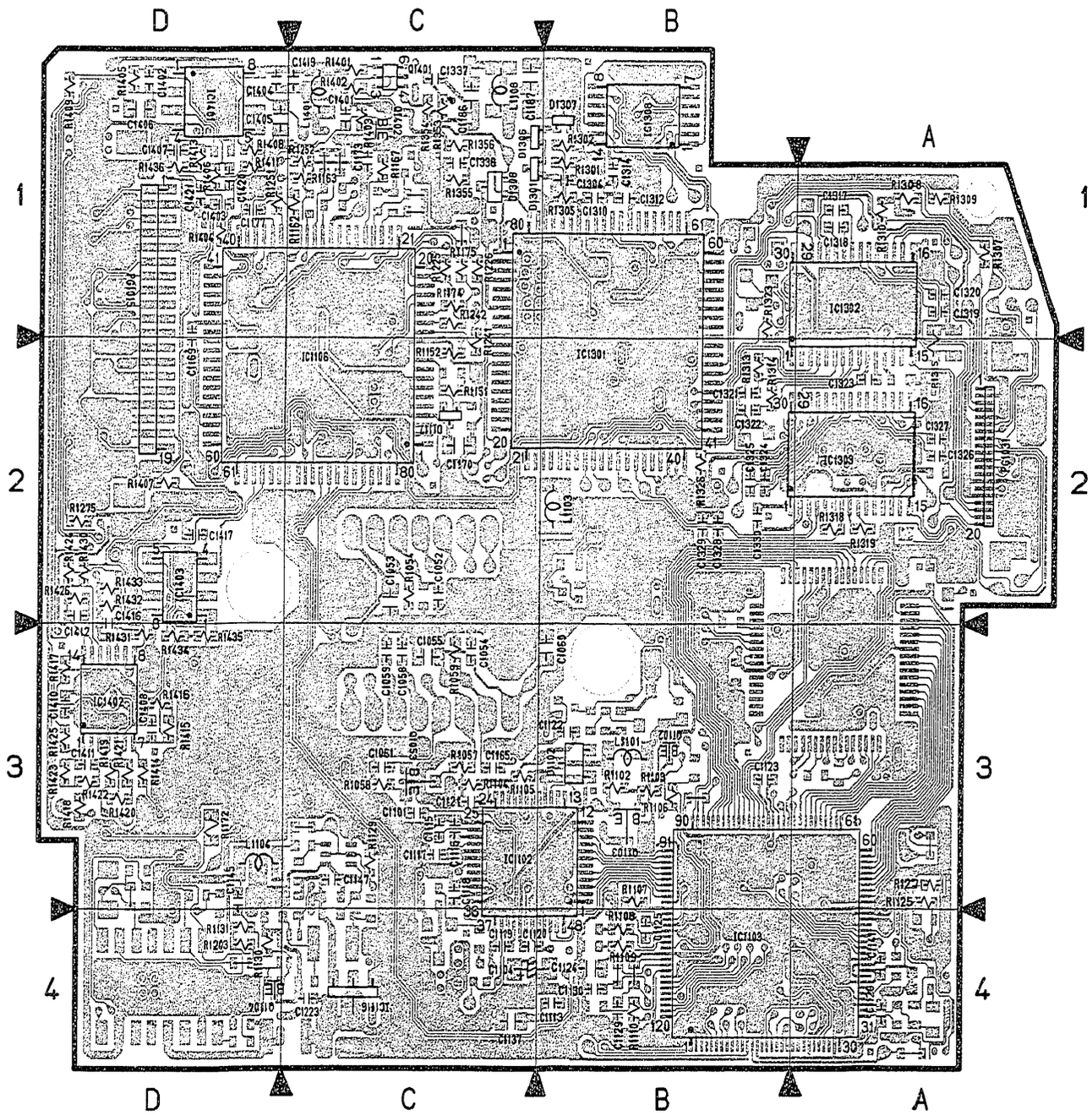
R1424	B-2D
R1425	B-3D
R1426	B-2D
R1430	B-2D
R1431	B-3D
R1432	B-2D
R1433	B-2D
R1434	B-3D
R1435	B-3D
R1436	B-1D
T	
T1101	A-1B
X	
X1101	A-4B

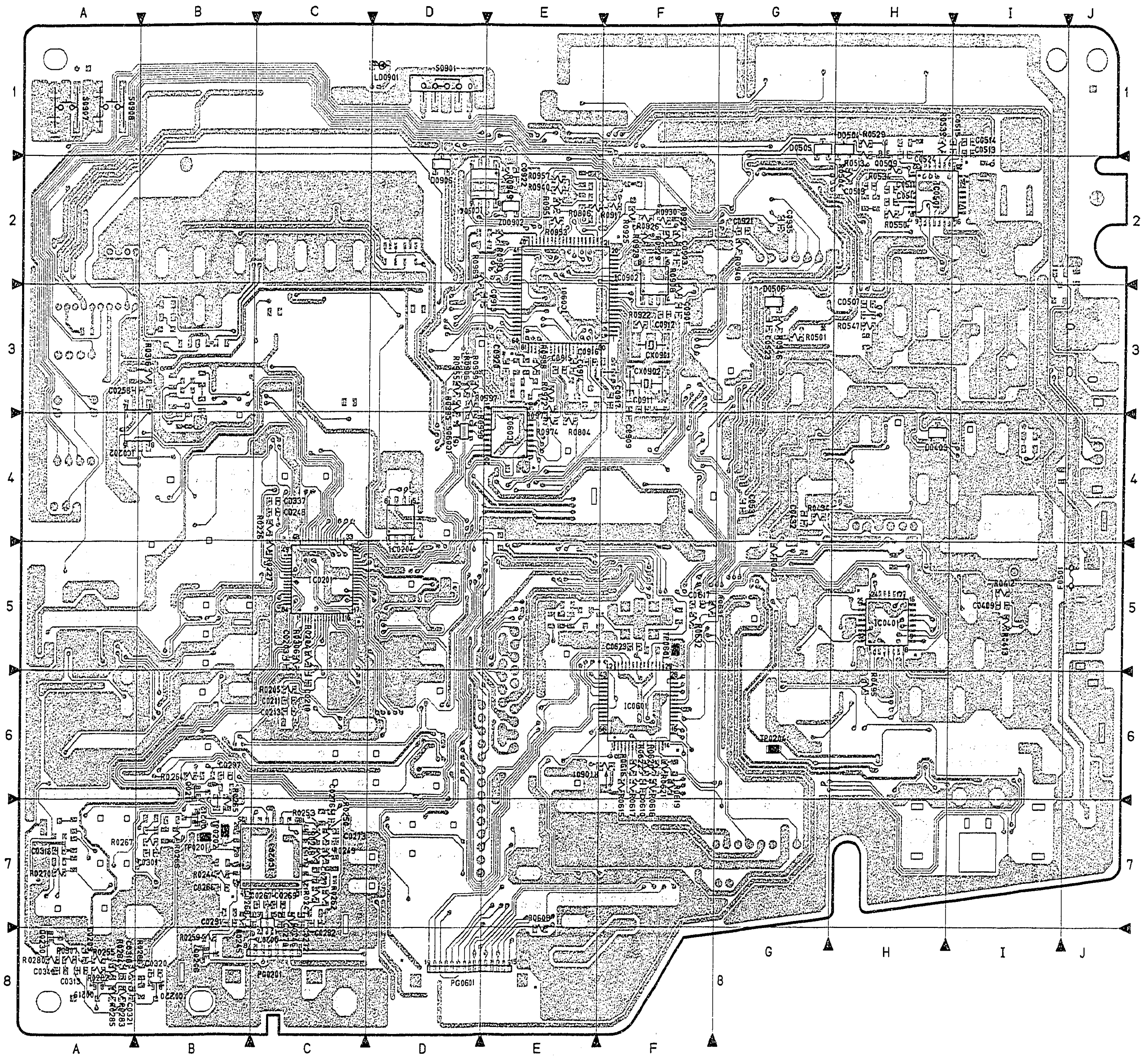
SPC CIRCUIT BOARD [SIDE B]



SPC[SENSOR/PROCESS]-SIDE B-

[PATTERN No.JA1011-7]

SWS CIRCUIT BOARD [SIDE A]


A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
8
S0901
LD0901
S0907
S0908
D0905
R0957
R0940
C0922
ZD0902
R0953
R0806
R0917
R0930
R0926
R0925
R0928
R0948
IC0903
IC0902
C0921
C0935
D0505
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R0547
R0501
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C0912
CX0901
CX0902
C0911
C0909
C0916
C0915
C0920
R0959
R0597
R0974
R0804
IC0901
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C0258
IC0202
D0405
C0337
C0248
R0226
R0227
IC0201
IC0204
C0651
C0632
R0494
R0423
C0617
R0632
R0631
C0623
TP0601
IC0601
R0495
TP0204
R0612
C0409
R0613
IC0401
F0501
R0245
C0211
C0213
R0264
C0297
R0265
C0276
R0253
C0273
R0249
R0267
C0316
R0270
TP0201
C0301
R0244
C0266
C0267
C0269
C0291
R0262
C0282
R0259
L0266
PG0201
R0280
C0324
C0313
R0255
C0320
C0321
R0283
R0285
R0601
R0615
R0616
R0617
R0618
R0619
R0621
R0608
PG0601

SWS[MAIN]-SIDE A-
[PATTERN No.152111-5]

IDENTIFICATION OF PARTS LOCATION

SWS [MAIN]

Symbol No.	Parts Location
C	
C0201	B-6B
C0202	B-5C
C0203	A-5C
C0205	B-5B
C0206	B-6C
C0207	B-6C
C0208	B-6C
C0209	A-8A
C0210	A-6C
C0211	A-5C
C0212	B-6C
C0213	A-5C
C0214	B-5C
C0215	B-4C
C0216	B-5C
C0217	B-5C
C0218	B-4C
C0220	B-6D
C0221	B-6D
C0223	B-5D
C0224	B-5D
C0225	D-5D
C0226	B-5D
C0227	B-5D
C0229	B-4C
C0230	B-6D
C0232	B-4D
C0233	B-4C
C0234	B-3D
C0236	B-4C
C0237	B-4A
C0238	B-4B
C0239	B-3C
C0240	B-4B
C0241	B-3D
C0243	B-3C
C0244	B-4C
C0245	B-4C
C0246	B-3C
C0247	B-5C
C0248	A-4C
C0249	B-4C
C0250	B-6B
C0251	B-5C
C0252	B-5B
C0253	B-5C
C0254	B-6B
C0257	B-4A
C0258	A-3A
C0260	B-4D
C0261	B-4D
C0262	B-4D
C0263	B-4D
C0264	B-5D
C0265	B-4D
C0266	A-7B
C0267	A-7C
C0268	A-7C
C0269	A-7C
C0270	A-7C
C0271	A-7C
C0272	A-7C
C0273	A-7C
C0274	B-7D
C0276	A-7C
C0277	B-6C
C0279	B-7C
C0281	B-6C
C0283	B-6C
C0290	B-7D
C0291	A-7B
C0292	A-7C
C0294	B-6B
C0297	A-6B
C0301	A-7B
C0303	B-7A
C0304	B-7A
C0307	B-7A
C0308	B-8A
C0310	B-8B
C0312	B-7B
C0313	A-8A
C0316	A-7A
C0318	A-8A
C0319	B-8B
C0320	A-8B
C0321	A-8A
C0337	A-4C
C0338	B-3C
C0340	A-8A
C0393	B-7B
C0401	B-6G
C0402	B-6H
C0403	B-6I
C0404	B-5H
C0405	B-5I
C0406	B-5G
C0408	B-5H
C0409	A-5I
C0410	B-5I
C0411	B-5H
C0414	B-5H
C0415	B-5G
C0416	B-5G
C0417	B-5H
C0420	B-5H
C0421	B-5G
C0422	B-4I
C0424	B-4H
C0425	B-4H
C0426	B-4H
C0430	B-4G
C0432	A-4G
C0433	B-2C
C0434	B-5G
C0435	B-2B
C0441	B-2B
C0448	B-6I
C0451	B-3A
C0454	B-7H
C0501	B-4J
C0502	B-3I
C0503	B-3H
C0504	B-3H
C0505	B-3H
C0506	B-2H
C0507	A-3H
C0509	A-2H
C0511	A-2H
C0512	A-2H
C0513	A-1I
C0514	A-1I
C0515	A-1I
C0521	B-2I
C0523	A-3G
C0524	A-1H
C0530	B-3G
C0531	A-4G
C0532	B-2H
C0533	B-3H
C0601	B-7E
C0602	B-7E
C0603	B-7E
C0605	B-7E
C0606	B-7E
C0607	B-7F
C0608	B-7G
C0609	B-7F
C0610	A-6F
C0611	B-7G
C0612	B-6F
C0613	B-7G
C0614	B-7G
C0615	B-6F
C0616	B-6F
C0617	A-5F
C0618	B-6F
C0619	B-5F
C0620	B-6F
C0623	A-5F
C0624	B-6E
C0625	B-6E
C0626	B-6E
C0628	B-6F
C0901	A-3F
C0902	B-2F
C0903	A-2F
C0904	B-3F
C0905	B-2F
C0906	B-2F
C0909	A-4F
C0911	A-3F
C0912	A-3F
C0913	A-3D
C0914	A-3E
C0915	A-3E
C0916	A-3E
C0917	A-3F
C0920	A-3E
C0921	A-2G
C0922	A-2E
C0923	B-3E
C0924	B-4E
C0925	B-4E
C0927	B-3A
C0931	B-4A
C0932	B-3A
C0933	B-3A
C0934	B-4A
C0935	A-2G
C0936	B-2F
C0937	B-3G
CN	
CN0201	B-8B
CP	
CP0201	B-5C
CP0202	B-7B
CX	
CX0201	B-5C
CX0901	A-3F
CX0902	A-3F
D	
D0201	B-5C
D0202	B-5D
D0204	B-8D
D0208	B-7H
D0402	B-4G
D0403	A-4H
D0406	B-3C
D0408	B-2A
D0501	B-5J
D0503	B-3I
D0504	A-1H
D0505	A-1G
D0506	A-3G
D0601	B-6F
D0901	B-4F
D0902	B-4F
D0903	B-2F
D0904	B-2F
D0905	B-2D
D0906	A-2D
DL	
DL0201	B-3D
F	
F0501	A-5J
IC	
IC0201	A-5C
IC0202	A-4A
IC0203	A-7C
IC0204	A-4D
IC0401	A-5H
IC0501	A-2H
IC0601	A-6F
IC0602	B-7F
IC0901	A-3E
IC0902	A-2F
IC0903	A-4E
IC0904	A-2D
IC0905	A-4D
JK	
JK0401	B-7H
JK0501	B-6J
L	
L0201	B-6C
L0202	B-5B
L0204	B-4C
L0205	B-6D
L0206	B-5D
L0207	B-4B
L0208	B-5B
L0209	B-5B
L0210	B-4D
L0212	B-7D
L0213	B-7D
L0214	B-6C
L0215	B-6D
L0216	B-7A
L0221	B-6B
L0222	B-6B
L0227	B-7A
L0231	B-7A
L0233	B-6D
L0401	B-5G
L0402	B-4H
L0501	B-3I
L0502	B-3I
L0503	B-3H
L0504	B-3H
L0505	B-2I
L0901	B-3D
L0902	B-4E
L0903	B-3G
L10901	B-4F
LD	
LD0901	A-1D
PG	
PG0201	A-8C
PG0401	B-2A
PG0402	B-4H
PG0403	B-5I
PG0601	A-8D
PG0602	B-7G
PG0603	B-6D
PG0901	B-6E
PG0902	B-2G
PG0903	B-3A
PG0905	B-4A
PG0908	B-3A
PG0909	B-3A
PG0911	B-3A
PG0912	B-7G
Q	
Q0201	B-3C
Q0205	B-6D
Q0206	B-6D
Q0207	A-7C
Q0209	B-6C
Q0211	A-6B
Q0212	A-7B
Q0214	B-7A
Q0217	B-8A
Q0219	A-8A
Q0220	A-8B
Q0230	A-8A
Q0404	B-4H
Q0405	B-4H
Q0407	B-5H
Q0408	B-5H
Q0501	B-3G
Q0502	B-3G
Q0503	B-3H
Q0504	B-2I
Q0505	B-1G
Q0506	B-2G
Q0507	B-2H
Q0508	B-2H
Q0509	A-1H
Q0510	B-3G
Q0901	B-4F
Q0902	B-3F
Q0903	B-3F
Q0904	B-2F
Q0905	B-4F
Q0908	B-2D
Q0910	B-1D
R	
R0201	B-5C
R0202	B-5C
R0203	B-6C
R0204	A-5C
R0205	A-6C
R0206	B-3C
R0212	B-4C
R0213	B-4D
R0216	B-5D
R0221	B-3D
R0222	B-4C
R0223	B-3C
R0224	B-3C
R0225	B-3C
R0226	A-4C
R0227	A-5C
R0228	B-3C
R0229	B-3A
R0232	B-4D
R0233	B-4D
R0234	B-4D
R0235	B-4D
R0236	B-5D
R0244	A-7B
R0245	A-7B
R0246	A-7C
R0247	A-7C
R0248	A-7C
R0249	A-7C
R0250	A-7C
R0251	B-5C
R0253	A-7C
R0254	B-7D
R0255	A-8A
R0256	B-7C
R0257	B-7C
R0258	B-6C
R0259	A-8B
R0262	A-7C
R0264	A-6B
R0265	A-7B
R0266	A-7B
R0267	A-7B
R0270	A-7A
R0271	B-7A
R0272	B-7A
R0273	B-7A
R0274	B-8A
R0275	B-8B
R0276	B-7B
R0277	B-7B
R0280	A-8A
R0282	A-8A
R0283	A-8A
R0284	A-8A
R0285	A-8A
R0286	A-8A
R0287	B-3C
R0302	B-6C
R0304	B-7A
R0305	B-3C
R0306	A-5C
R0307	A-8A
R0311	B-4D
R0316	A-3B
R0321	B-6D
R0325	B-3D
R0401	B-6H
R0402	B-5H
R0403	B-5H
R0404	B-5I
R0405	B-6I
R0408	B-6H
R0409	B-5I
R0410	B-5H
R0411	B-5H
R0412	A-5I
R0413	A-5I
R0416	B-5H
R0417	B-4G
R0418	B-5H
R0419	B-5G
R0420	B-5H
R0421	B-5H
R0422	B-5H
R0423	A-5G
R0427	B-4H
R0428	B-3H
R0429	B-4H
R0430	B-4G
R0434	A-4G
R0437	B-5H
R0438	B-5H
R0439	B-2B
R0445	B-3B
R0461	B-6I
R0468	B-4F
R0481	B-4G
R0488	B-5I
R0489	B-6H
R0493	B-6I
R0495	A-6H
R0499	B-5G
R0501	A-3G
R0502	B-2G
R0503	B-2G
R0504	A-2H
R0505	B-1G
R0506	B-2G
R0507	B-2H
R0508	B-1H
R0509	B-1H
R0513	A-2H
R0529	A-1H
R0534	A-2H
R0535	B-2H
R0537	B-2H
R0538	B-2I
R0539	A-1H
R0540	B-2H
R0542	B-2H
R0543	B-2H
R0546	A-3G
R0547	A-3H
R0548	B-2H
R0549	B-2H
R0550	A-2H
R0556	B-3I
R0557	B-2I
R0560	B-3G
R0601	B-7E
R0602	B-7E
R0603	B-7E
R0604	B-7E
R0604	B-7E
R0605	B-6E
R0606	B-7F
R0607	B-7F
R0608	A-8E
R0609	B-7F
R0610	B-7F
R0611	B-7F
R0613	B-7E
R0615	A-6F
R0616	A-6F
R0617	A-6F
R0618	A-6F
R0619	A-6F
R0620	A-6F
R0621	A-6F
R0622	A-6F
R0623	B-6G
R0624	B-6G
R0625	B-6F
R0626	B-6F
R0627	B-6F
R0629	B-6F
R0630	B-6F
R0631	A-5F
R0632	A-5F
R0633	B-5F
R0634	B-6F
R0635	B-5F
R0636	B-5F
R0637	B-5E
R0801	B-3E
R0802	B-3E
R0803	B-3E
R0804	A-4E
R0806	A-2E
R0901	B-2G
R0902	B-2G
R0903	B-4E
R0904	B-4E
R0905	B-4F
R0906	A-3D
R0907	B-4F
R0908	A-2F
R0910	B-3F
R0911	B-3F
R0912	B-2F
R0913	B-3F
R0914	B-3F
R0915	B-1B
R0916	B-2F
R0917	A-2F
R0918	B-3F
R0919	B-3F
R0920	B-3F
R0921	B-3F
R0922	A-3F
R0923	B-2F
R0924	B-2F
R0925	A-2F
R0926	A-2F
R0927	A-2F
R0928	A-2F
R0929	A-2F
R0930	A-2F
R0931	B-2F
R0932	B-2F
R0933	B-1H
R0934	B-1H
R0935	B-1F
R0936	B-1A
R0937	B-1A
R0938	B-1B
R0939	B-1B
R0940	A-2E
R0948	A-2G
R0949	A-2E
R0950	B-1C
R0951	A-2E
R0953	A-2E
R0955	A-3D
R0957	A-2E
R0959	B-2E
R0960	B-2E
R0961	B-2E
R0962	B-2E
R0963	B-1E
R0964	B-2E
R0965	B-2E
R0966	B-2E
R0967	B-2E
R0968	B-1E
R0969	A-2D
R0972	A-3E
R0973	A-3E
R0974	A-4E
R0975	B-3E
R0976	B-3E
R0978	B-3F
R0979	B-3F
R0980	B-3E
R0981	B-3E
R0982	B-3E
R0983	B-3F
R0986	B-4F
R0987	B-4F
R0988	A-3E
R0992	B-4A
R0993	A-2E
R0995	A-3D
R0996	B-3A
R0997	A-3D
R0998	A-4D
R0999	A-3D
RT	
RT0601	A-6F
S	
S0901	A-1D
S0902	B-1I
S0903	B-1G
S0904	B-1H
S0905	B-1F
S0907	A-1A
S0908	A-1A
S0909	B-1B
S0910	B-1B
S0911	B-1C
S0912	B-6I
T	
T0402	B-4H
TP	
TP0201	A-7B
TP0202	A-7B
TP0204	A-6G
TP0601	A-5F
ZD	
ZD0203	B-5D
ZD0205	B-3D
ZD0501	B-3G
ZD0902	A-2E

IDENTIFICATION OF PARTS LOCATION

SWS [MAIN]

Symbol No.	Parts Location
C	
C0201	B-6B
C0202	B-5C
C0203	A-5C
C0205	B-5B
C0206	B-6C
C0207	B-6C
C0208	B-6C
C0209	A-8A
C0210	A-6C
C0211	A-5C
C0212	B-6C
C0213	A-5C
C0214	B-5C
C0215	B-4C
C0216	B-5C
C0217	B-5C
C0218	B-4C
C0220	B-6D
C0221	B-6D
C0223	B-5D
C0224	B-5D
C0225	D-5D
C0226	B-5D
C0227	B-5D
C0229	B-4C
C0230	B-6D
C0232	B-4D
C0233	B-4C
C0234	B-3D
C0236	B-4C
C0237	B-4A
C0238	B-4B
C0239	B-3C
C0240	B-4B
C0241	B-3D
C0243	B-3C
C0244	B-4C
C0245	B-4C
C0246	B-3C
C0247	B-5C
C0248	A-4C
C0249	B-4C
C0250	B-6B
C0251	B-5C
C0252	B-5B
C0253	B-5C
C0254	B-6B
C0257	B-4A
C0258	A-3A
C0260	B-4D
C0261	B-4D
C0262	B-4D
C0263	B-4D
C0264	B-5D
C0265	B-4D
C0266	A-7B
C0267	A-7C
C0268	A-7C
C0269	A-7C
C0270	A-7C
C0271	A-7C
C0272	A-7C
C0273	A-7C
C0274	B-7D
C0276	A-7C
C0277	B-6C
C0279	B-7C
C0281	B-6C
C0283	B-6C
C0290	B-7D
C0291	A-7B
C0292	A-7C
C0294	B-6B
C0297	A-6B
C0301	A-7B
C0303	B-7A
C0304	B-7A
C0307	B-7A
C0308	B-8A
C0310	B-8B
C0312	B-7B
C0313	A-8A
C0316	A-7A
C0318	A-8A
C0319	B-8B
C0320	A-8B
C0321	A-8A
C0337	A-4C
C0338	B-3C
C0340	A-8A
C0393	B-7B
C0401	B-6G
C0402	B-6H
C0403	B-6I
C0404	B-5H
C0405	B-5I
C0406	B-5G
C0408	B-5H
C0409	A-5I
C0410	B-5I
C0411	B-5H
C0414	B-5H
C0415	B-5G
C0416	B-5G
C0417	B-5H
C0420	B-5H
C0421	B-5G
C0422	B-4I
C0424	B-4H
C0425	B-4H
C0426	B-4H
C0430	B-4G
C0432	A-4G
C0433	B-2C
C0434	B-5G
C0435	B-2B
C0441	B-2B
C0448	B-6I
C0451	B-3A
C0454	B-7H
C0501	B-4J
C0502	B-3I
C0503	B-3H
C0504	B-3H
C0505	B-3H
C0506	B-2H
C0507	A-3H
C0509	A-2H
C0511	A-2H
C0512	A-2H
C0513	A-1I
C0514	A-1I
C0515	A-1I
C0521	B-2I
C0523	A-3G
C0524	A-1H
C0530	B-3G
C0531	A-4G
C0532	B-2H
C0533	B-3H
C0601	B-7E
C0602	B-7E
C0603	B-7E
C0605	B-7E
C0606	B-7E
C0607	B-7F
C0608	B-7G
C0609	B-7F
C0610	A-6F
C0611	B-7G
C0612	B-6F
C0613	B-7G
C0614	B-7G
C0615	B-6F
C0616	B-6F
C0617	A-5F
C0618	B-6F
C0619	B-5F
C0620	B-6F
C0623	A-5F
C0624	B-6E
C0625	B-6E
C0626	B-6E
C0628	B-6F
C0901	A-3F
C0902	B-2F
C0903	A-2F
C0904	B-3F
C0905	B-2F
C0906	B-2F
C0909	A-4F
C0911	A-3F
C0912	A-3F
C0913	A-3D
C0914	A-3E
C0915	A-3E
C0916	A-3E
C0917	A-3F
C0920	A-3E
C0921	A-2G
C0922	A-2E
C0923	B-3E
C0924	B-4E
C0925	B-4E
C0927	B-3A
C0931	B-4A
C0932	B-3A
C0933	B-3A
C0934	B-4A
C0935	A-2G
C0936	B-2F
C0937	B-3G
CN	
CN0201	B-8B
CP	
CP0201	B-5C
CP0202	B-7B
CX	
CX0201	B-5C
CX0901	A-3F
CX0902	A-3F
D	
D0201	B-5C
D0202	B-5D
D0204	B-8D
D0208	B-7H
D0402	B-4G
D0403	A-4H
D0406	B-3C
D0408	B-2A
D0501	B-5J
D0503	B-3I
D0504	A-1H
D0505	A-1G
D0506	A-3G
D0601	B-6F
D0901	B-4F
D0902	B-4F
D0903	B-2F
D0904	B-2F
D0905	B-2D
D0906	A-2D
DL	
DL0201	B-3D
F	
F0501	A-5J
IC	
IC0201	A-5C
IC0202	A-4A
IC0203	A-7C
IC0204	A-4D
IC0401	A-5H
IC0501	A-2H
IC0601	A-6F
IC0602	B-7F
IC0901	A-3E
IC0902	A-2F
IC0903	A-4E
IC0904	A-2D
IC0905	A-4D
JK	
JK0401	B-7H
JK0501	B-6J
L	
L0201	B-6C
L0202	B-5B
L0204	B-4C
L0205	B-6D
L0206	B-5D
L0207	B-4B
L0208	B-5B
L0209	B-5B
L0210	B-4D
L0212	B-7D
L0213	B-7D
L0214	B-6C
L0215	B-6D
L0216	B-7A
L0221	B-6B
L0222	B-6B
L0227	B-7A
L0231	B-7A
L0233	B-6D
L0401	B-5G
L0402	B-4H
L0501	B-3I
L0502	B-3I
L0503	B-3H
L0504	B-3H
L0505	B-2I
L0901	B-3D
L0902	B-4E
L0903	B-3G
L10901	B-4F
LD	
LD0901	A-1D
PG	
PG0201	A-8C
PG0401	B-2A
PG0402	B-4H
PG0403	B-5I
PG0601	A-8D
PG0602	B-7G
PG0603	B-6D
PG0901	B-6E
PG0902	B-2G
PG0903	B-3A
PG0905	B-4A
PG0908	B-3A
PG0909	B-3A
PG0911	B-3A
PG0912	B-7G
Q	
Q0201	B-3C
Q0205	B-6D
Q0206	B-6D
Q0207	A-7C
Q0209	B-6C
Q0211	A-6B
Q0212	A-7B
Q0214	B-7A
Q0217	B-8A
Q0219	A-8A
Q0220	A-8B
Q0230	A-8A
Q0404	B-4H
Q0405	B-4H
Q0407	B-5H
Q0408	B-5H
Q0501	B-3G
Q0502	B-3G
Q0503	B-3H
Q0504	B-2I
Q0505	B-1G
Q0506	B-2G
Q0507	B-2H
Q0508	B-2H
Q0509	A-1H
Q0510	B-3G
Q0901	B-4F
Q0902	B-3F
Q0903	B-3F
Q0904	B-2F
Q0905	B-4F
Q0908	B-2D
Q0910	B-1D
R	
R0201	B-5C
R0202	B-5C
R0203	B-6C
R0204	A-5C
R0205	A-6C
R0206	B-3C
R0212	B-4C
R0213	B-4D
R0216	B-5D
R0221	B-3D
R0222	B-4C
R0223	B-3C
R0224	B-3C
R0225	B-3C
R0226	A-4C
R0227	A-5C
R0228	B-3C
R0229	B-3A
R0232	B-4D
R0233	B-4D
R0234	B-4D
R0235	B-4D
R0236	B-5D
R0244	A-7B
R0245	A-7B
R0246	A-7C
R0247	A-7C
R0248	A-7C
R0249	A-7C
R0250	A-7C
R0251	B-5C
R0253	A-7C
R0254	B-7D
R0255	A-8A
R0256	B-7C
R0257	B-7C
R0258	B-6C
R0259	A-8B
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R0264	A-6B
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R0272	B-7A
R0273	B-7A
R0274	B-8A
R0275	B-8B
R0276	B-7B
R0277	B-7B
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R0283	A-8A
R0284	A-8A
R0285	A-8A
R0286	A-8A
R0287	B-3C
R0302	B-6C
R0304	B-7A
R0305	B-3C
R0306	A-5C
R0307	A-8A
R0311	B-4D
R0316	A-3B
R0321	B-6D
R0325	B-3D
R0401	B-6H
R0402	B-5H
R0403	B-5H
R0404	B-5I
R0405	B-6I
R0408	B-6H
R0409	B-5I
R0410	B-5H
R0411	B-5H
R0412	A-5I
R0413	A-5I
R0416	B-5H
R0417	B-4G
R0418	B-5H
R0419	B-5G
R0420	B-5H
R0421	B-5H
R0422	B-5H
R0423	A-5G
R0427	B-4H
R0428	B-3H
R0429	B-4H
R0430	B-4G
R0434	A-4G
R0437	B-5H
R0438	B-5H
R0439	B-2B
R0445	B-3B
R0461	B-6I
R0468	B-4F
R0481	B-4G
R0488	B-5I
R0489	B-6H
R0493	B-6I
R0495	A-6H
R0499	B-5G
R0501	A-3G
R0502	B-2G
R0503	B-2G
R0504	A-2H
R0505	B-1G
R0506	B-2G
R0507	B-2H
R0508	B-1H
R0509	B-1H
R0513	A-2H
R0529	A-1H
R0534	A-2H
R0535	B-2H
R0537	B-2H
R0538	B-2I
R0539	A-1H
R0540	B-2H
R0542	B-2H
R0543	B-2H
R0546	A-3G
R0547	A-3H
R0548	B-2H
R0549	B-2H
R0550	A-2H
R0556	B-3I
R0557	B-2I
R0560	B-3G
R0601	B-7E
R0602	B-7E
R0603	B-7E
R0604	B-7E
R0604	B-7E
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R0607	B-7F
R0608	A-8E
R0609	B-7F
R0610	B-7F
R0611	B-7F
R0613	B-7E
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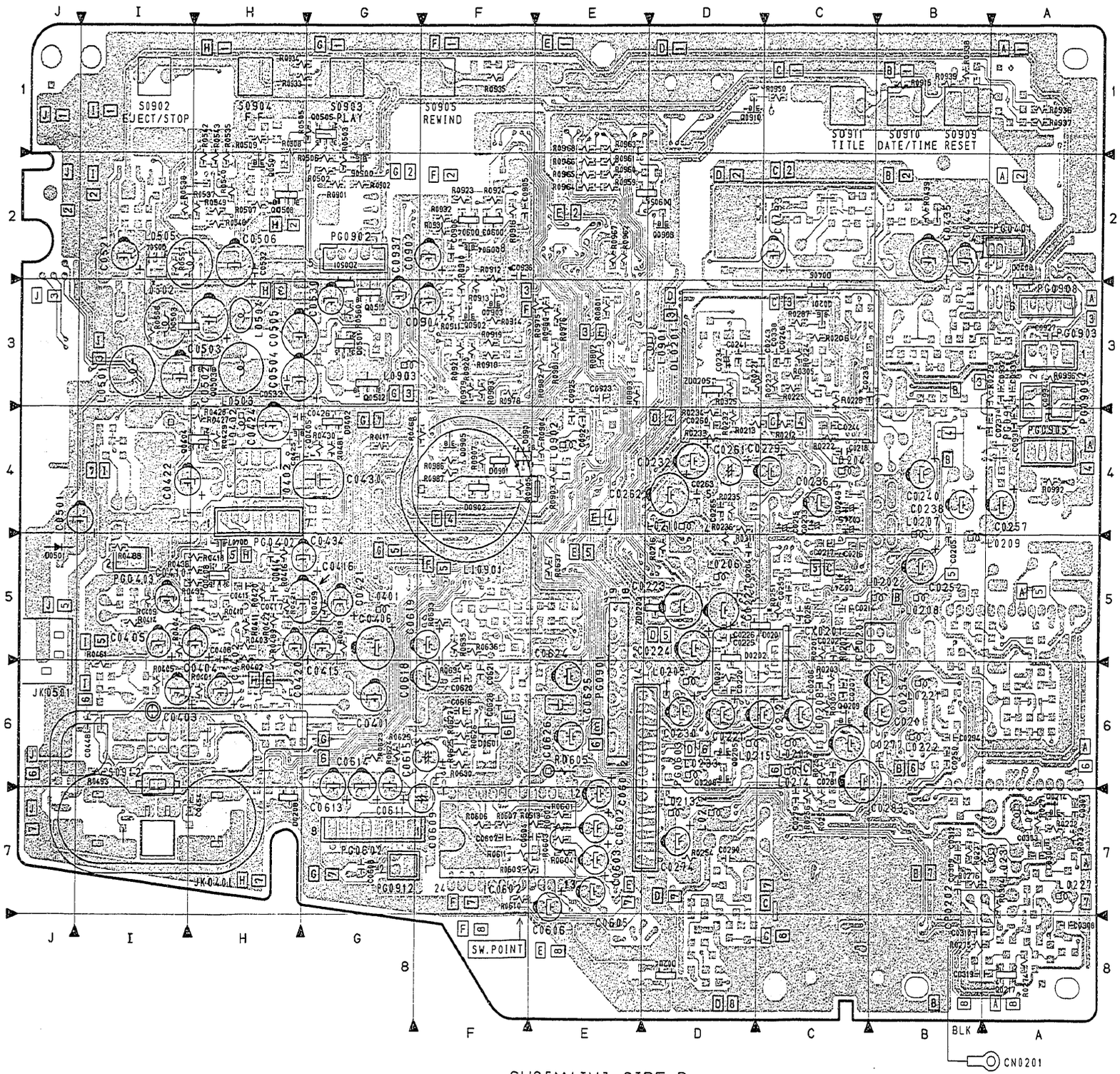
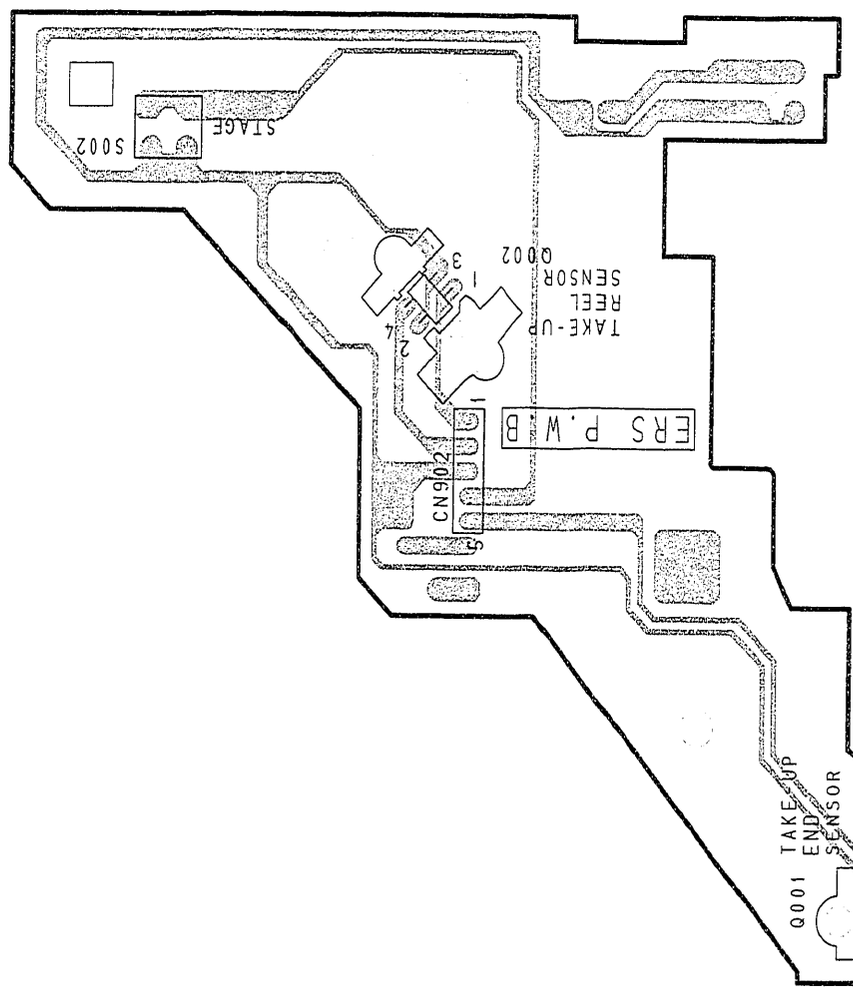
R0616	A-6F
R0617	A-6F
R0618	A-6F
R0619	A-6F
R0620	A-6F
R0621	A-6F
R0622	A-6F
R0623	B-6G
R0624	B-6G
R0625	B-6F
R0626	B-6F
R0627	B-6F
R0629	B-6F
R0630	B-6F
R0631	A-5F
R0632	A-5F
R0633	B-5F
R0634	B-6F
R0635	B-5F
R0636	B-5F
R0637	B-5E
R0801	B-3E
R0802	B-3E
R0803	B-3E
R0804	A-4E
R0806	A-2E
R0901	B-2G
R0902	B-2G
R0903	B-4E
R0904	B-4E
R0905	B-4F
R0906	A-3D
R0907	B-4F
R0908	A-2F
R0910	B-3F
R0911	B-3F
R0912	B-2F
R0913	B-3F
R0914	B-3F
R0915	B-1B
R0916	B-2F
R0917	A-2F
R0918	B-3F
R0919	B-3F
R0920	B-3F
R0921	B-3F
R0922	A-3F
R0923	B-2F
R0924	B-2F
R0925	A-2F
R0926	A-2F
R0927	A-2F
R0928	A-2F
R0929	A-2F
R0930	A-2F
R0931	B-2F
R0932	B-2F
R0933	B-1H
R0934	B-1H
R0935	B-1F
R0936	B-1A
R0937	B-1A
R0938	B-1B
R0939	B-1B
R0940	A-2E
R0948	A-2G
R0949	A-2E
R0950	B-1C
R0951	A-2E
R0953	A-2E
R0955	A-3D
R0957	A-2E
R0959	B-2E
R0960	B-2E
R0961	B-2E
R0962	B-2E
R0963	B-1E
R0964	B-2E
R0965	B-2E
R0966	B-2E
R0967	B-2E
R0968	B-1E
R0969	A-2D
R0972	A-3E
R0973	A-3E
R0974	A-4E
R0975	B-3E
R0976	B-3E
R0978	B-3F
R0979	B-3F
R0980	B-3E
R0981	B-3E
R0982	B-3E
R0983	B-3F
R0986	B-4F
R0987	B-4F
R0988	A-3E
R0992	B-4A
R0993	A-2E
R0995	A-3D
R0996	B-3A
R0997	A-3D
R0998	A-4D
R0999	A-3D
RT	
RT0601	A-6F
S	
S0901	A-1D
S0902	B-1I
S0903	B-1G
S0904	B-1H
S0905	B-1F
S0907	A-1A
S0908	A-1A
S0909	B-1B
S0910	B-1B
S0911	B-1C
S0912	B-6I
T	
T0402	B-4H
TP	
TP0201	A-7B
TP0202	A-7B
TP0204	A-6G
TP0601	A-5F
ZD	
ZD0203	B-5D
ZD0205	B-3D
ZD0501	B-3G
ZD0902	A-2E

SWS CIRCUIT BOARD[SIDE B]

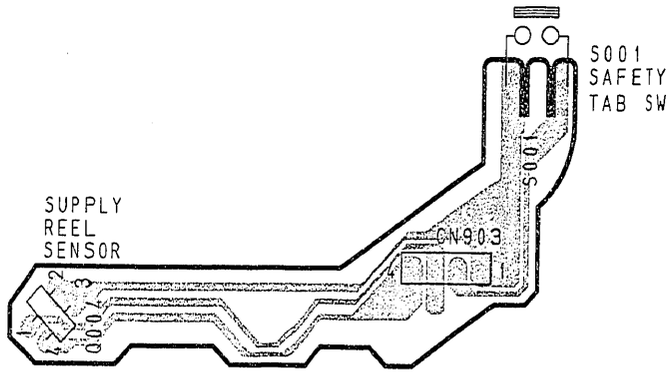


SWS[MAIN]-SIDE B-
[PATTERN No.152111-5]



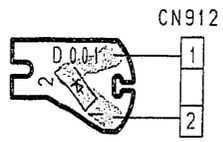
ERS [TAKE-UP SENSOR]

[PATTERN No.151995-4]



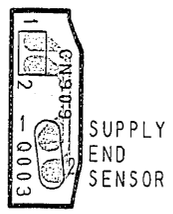
TSS [SUPPLY SENSOR]

[PATTERN No.151995-4]



EL [END LED]

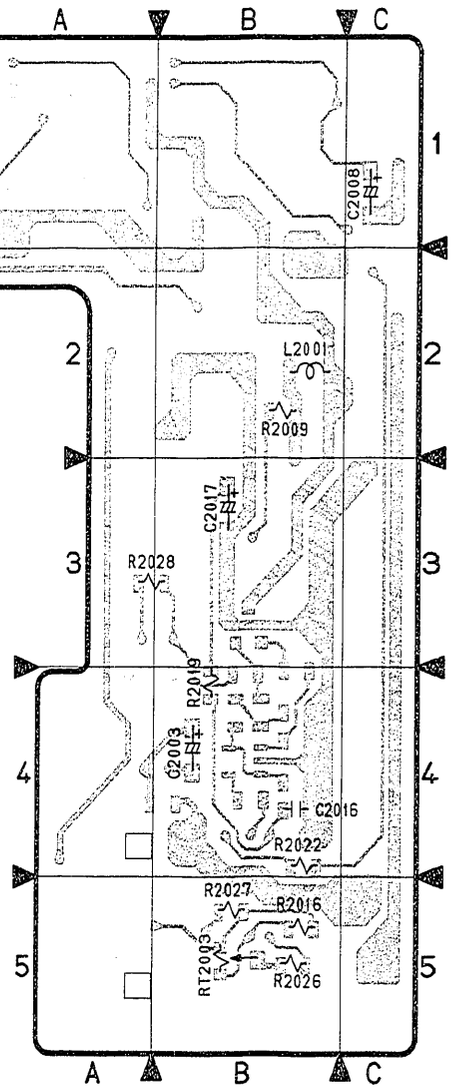
[PATTERN No.151995-4]

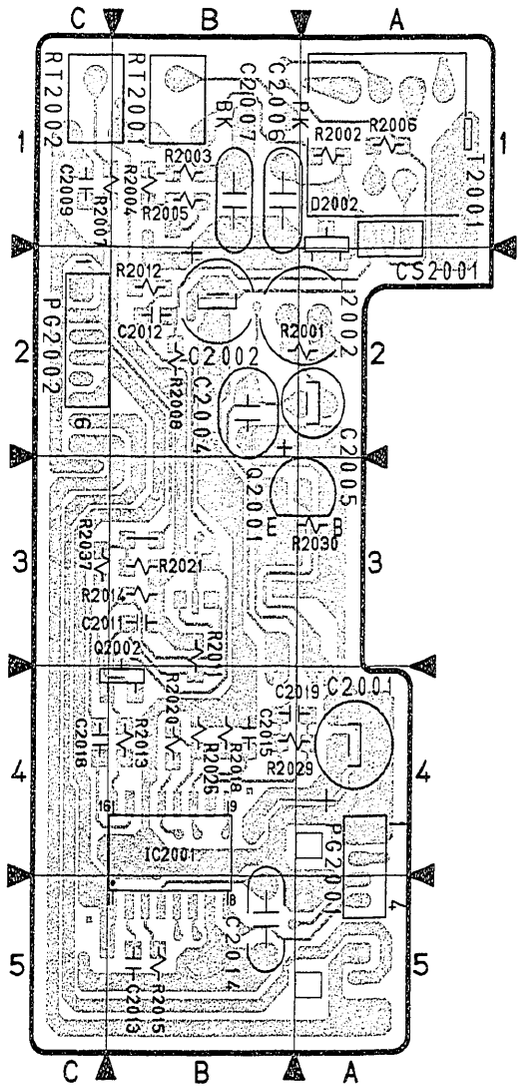


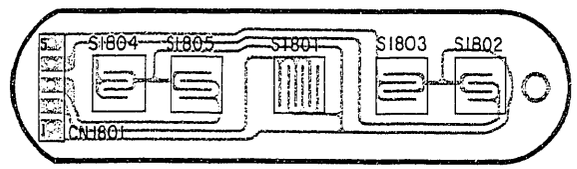
ESS [SUPPLY END SENSOR]

[PATTERN No.151995-4]

EMSF. TWS CIRCUIT BOARDS







-SIDE A- EMSF[ELECTRONIC VIEWFINDER] -SIDE B- TWS[TELE/WIDE SW]

[PATTERN No.152221-5]

IDENTIFICATION OF PARTS LOCATION

EMSF
[ELECTRONIC VIEWFINDER]

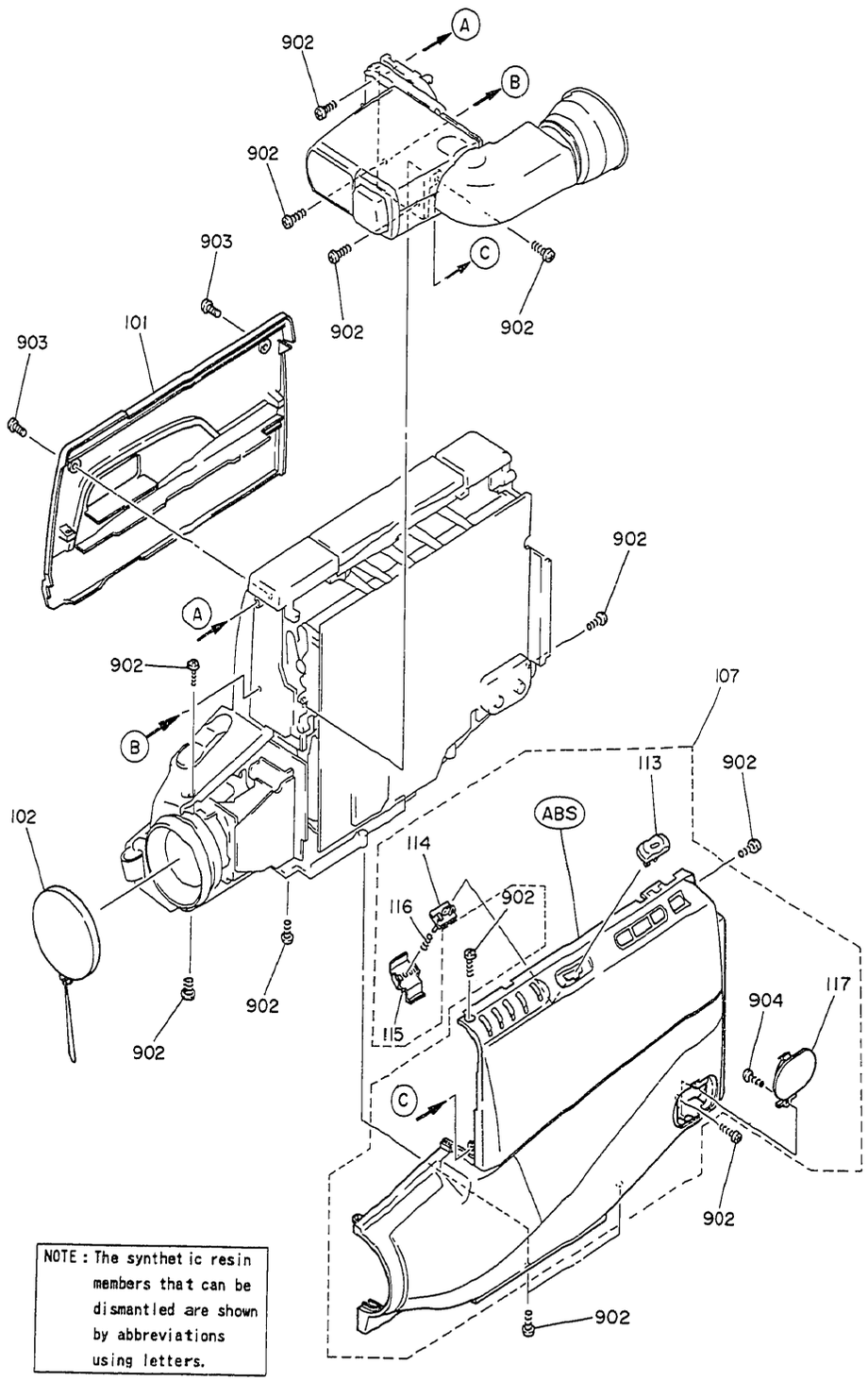
Symbol No.	Parts Location
C	
C2001	B-4A
C2002	B-2B
C2003	A-4B
C2004	B-2B
C2005	B-2A
C2006	B-1B
C2007	B-1B
C2008	A-1C
C2009	B-1C
C2011	B-3B
C2012	B-2B
C2013	B-5B
C2014	B-5B
C2015	B-4C
C2016	A-4B
C2017	A-3B
C2018	B-4C
C2019	B-4B
CS	
CS2001	B-1A
D	
D2002	B-1A

Symbol No.	Parts Location
IC	
IC2001	B-4B
L	
L2001	A-2B
L2002	B-2A
PG	
PG2001	B-4A
PG2002	B-2C
Q	
Q2001	B-3A
Q2002	B-4B
R	
R2001	B-2A
R2002	B-1A
R2003	B-1B
R2004	B-1B
R2005	B-1B
R2006	B-1A
R2007	B-1C
R2008	B-2B
R2009	A-2B
R2011	B-3B
R2012	B-2B

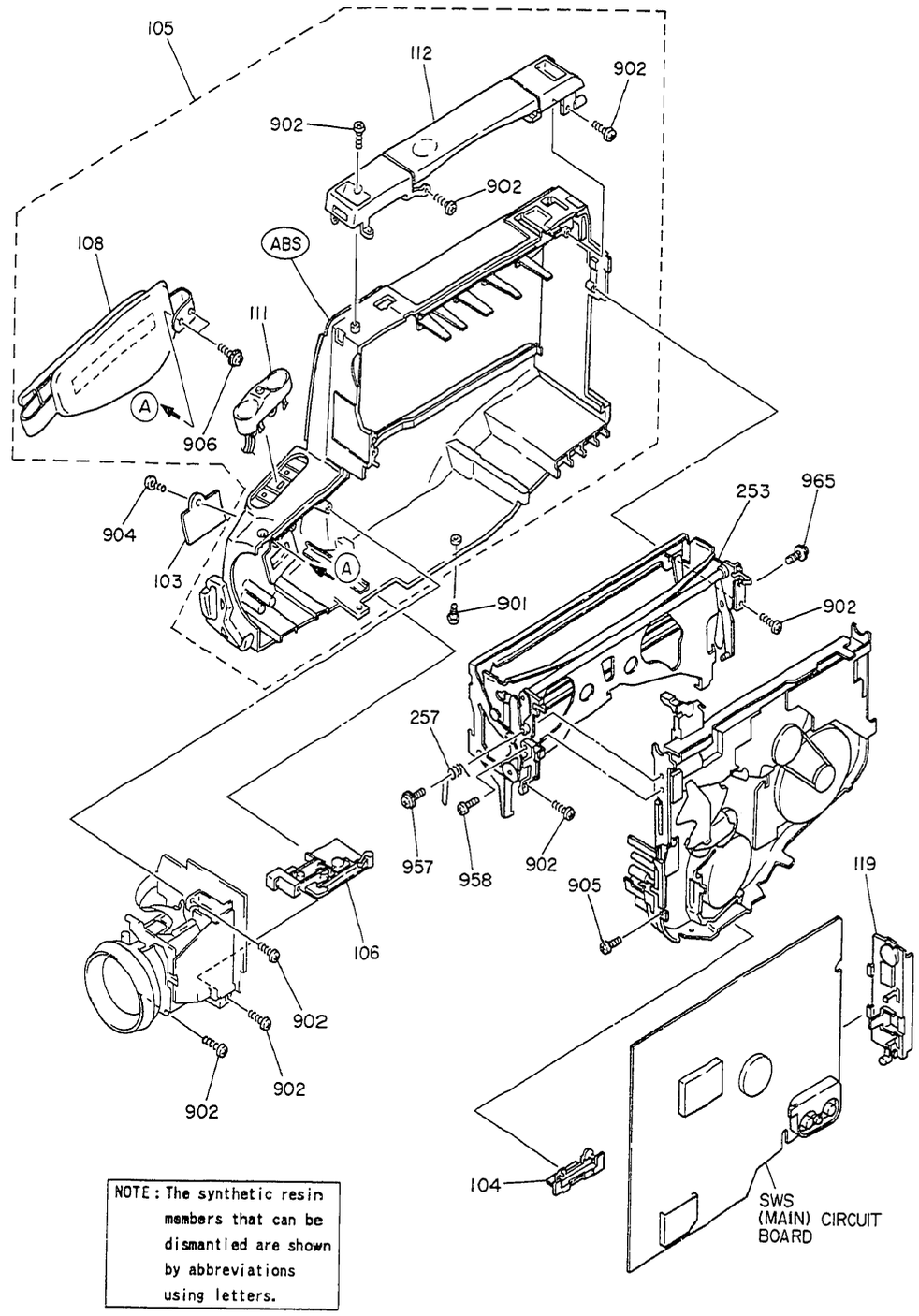
Symbol No.	Parts Location
R2013	B-4B
R2014	B-3B
R2015	B-5B
R2016	A-5B
R2018	B-4B
R2019	A-4B
R2020	B-4B
R2021	B-3B
R2022	A-4B
R2025	B-4B
R2026	A-5B
R2027	A-5B
R2028	A-3A
R2029	B-4B
R2030	B-3A
R2037	B-3C
RT	
RT2001	B-1B
RT2002	B-1C
RT2003	A-5B
T	
T2001	B-1A

EXPLODED VIEWS

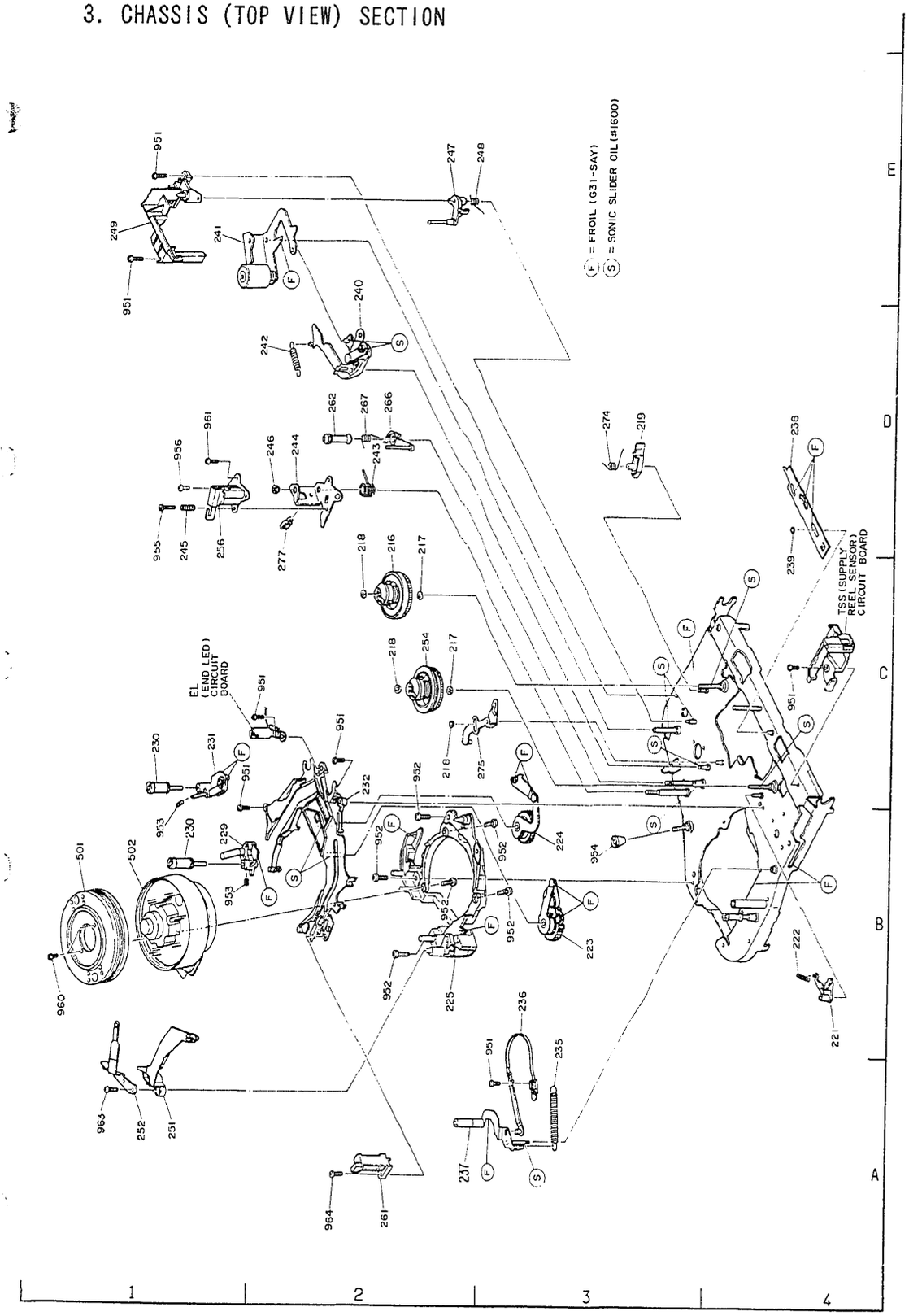
1. CABINET SECTION (1)



2. CABINET SECTION (2)



3. CHASSIS (TOP VIEW) SECTION



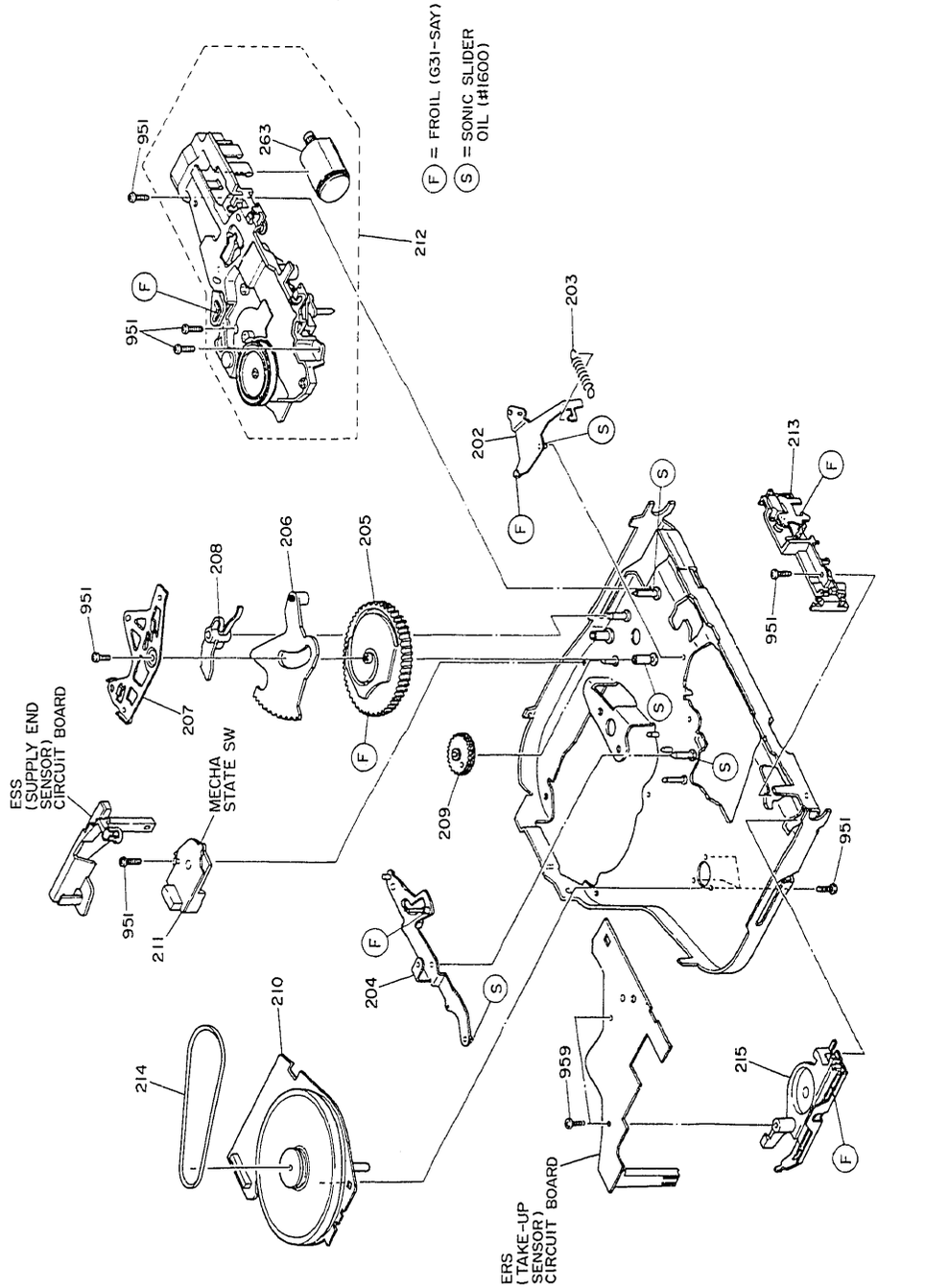
LUBRICATION

Lubrication points are shown in the exploded view diagrams by marks (Ⓕ , Ⓢ).
Lubricants shown in the diagram are as follows.

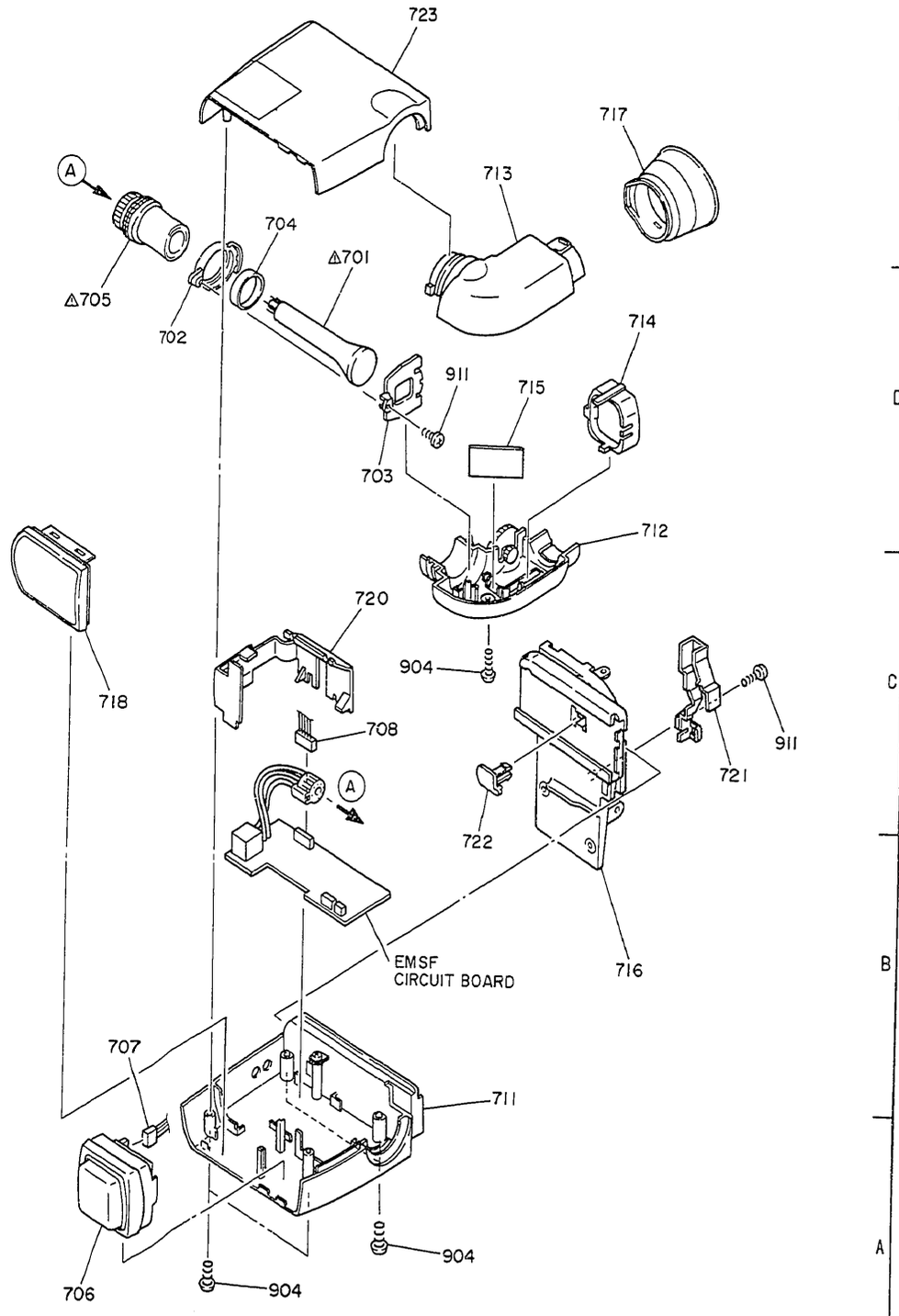
Ⓕ Froil (G31-SAY)

Ⓢ Sonic slider oil (#1600)

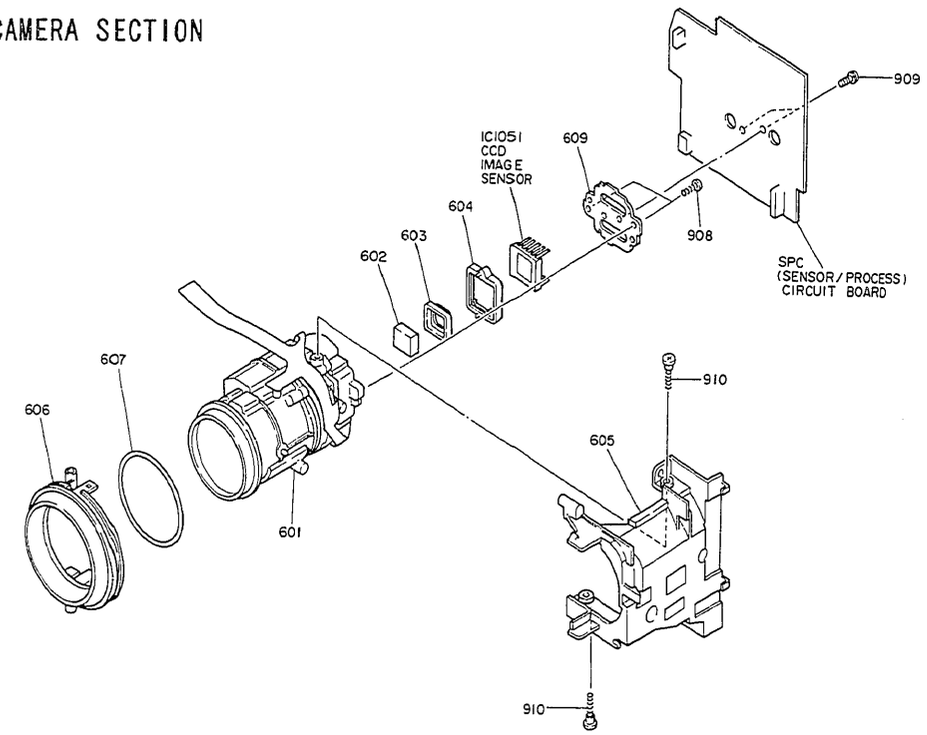
4. CHASSIS (BOTTOM VIEW) SECTION



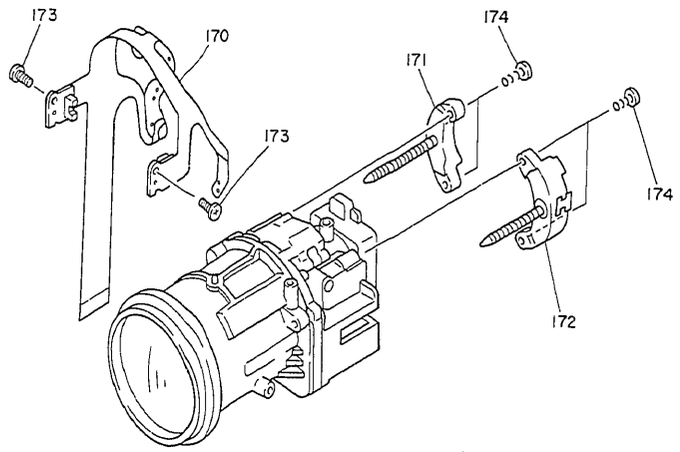
5. ELECTRONIC VIEWFINDER (EVF) SECTION



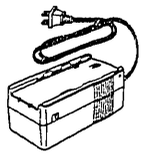
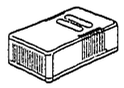
6. CAMERA SECTION



7. LENS SECTION



8. ACCESSORIS

802	⚠803	805	⚠
			
Parts No. 4133069	VM-AC68A(T)	Parts No. 5856321	VM-BP66

REPLACEMENT PARTS LIST

SYMBOL-NO	P-NO	DESCRIPTION
		MECHANISM SECTION
101	PH10649	LID, CASSETTE
102	4799841	CAP
103	4799862	FRONT PIECE
104	6409331	HINGE, CBA
105	4717811	CASE, SIDE(R)
106	6186691	TRIPOD PIECE
107	4717862	CASE, SIDE(L)
108	QX10371	STRAP, HAND
111	FH10111	SWITCH
112	6336861	HANDLE AS
113	4752671	KNOB, POWER
114	4752681	SLIDE, POWER
115	4799791	POWER KNOB HOLDER
116	6305733	SPRING
117	4731852	COVER, JACK
119	4799814	TERMINAL, BATTERY
170	KQ10191	FLEXIBLE
171	KQ10192	MOTOR, AUTO FOCUS
172	KQ10193	MOTOR, POWER ZOOM
173	KQ10194	SCREW(1.7X4.5)
174	KQ10195	SCREW(1.7X7.0)
202	7469135	ARM, LOCK
203	6555792	SPRING
204	7469922	ARM, CAM
205	6440163	GEAR
206	6916112	GEAR, LOADING
207	7449128	GUIDE
208	6805682	ARM, OPERATION
209	6440172	GEAR
210	5579662	MOTOR, CAPSTAN
211	5610821	SWITCH
212	6820588	LOADING BLOCK
213	6806077	HOLDER
214	KK10111	BELT
215	6806136	SLIDER
216	6887719	TABLE, REEL
217	7786623	POLYSLIDER WASHER
218	7778859	POLYSLIDER WASHER
219	6820551	BRAKE
221	6806322	BRAKE, SUB
222	6555814	SPRING
223	7448756	GEAR, LOADING
224	7448785	GEAR, LOADING
225	6916143	BASE, CYLINDER
229	6916343	BASE, GUIDE ROLLER(IN)
230	6424743	ROLLER, GUIDE
231	6916364	BASE, GUIDE ROLLER(OUT)
232	KX10241	PLATE
235	6555823	SPRING
236	6820992	BAND, TENTION
237	7472874	ARM
238	7448855	SLIDER
239	7778859	POLYSLIDER WASHER
240	7469943	LINK, PRESSER ROLLER
241	7469901	ARM, PRESSURE ROLLER
242	6523243	SPRING
243	6551952	SPRING
244	7448933	ARM, HEAD
245	6523252	SPRING
246	7785673	NUT
247	6911698	ARM
248	6551961	SPRING
249	6806255	PLATE
251	6820572	GUIDE
252	5793752	BRUSH
253	KX10482	HOLDER ASSY, CASSETTE
254	KH10111	REEL, SUPPLY
256	5443491	HEAD, AUDIO CONTROL
257	6550942	SPRING
261	GC10111	FE HEAD
262	4508238	GUIDE
263	GP10151	MOTOR, LOADING
266	6916126	ARM
267	6552507	SPRING
274	6552494	SPRING
275	7469952	ARM, OPERATION
277	6807081	CLAMP
501	5436278	CYLINDER, UPPER (CY-F2ND)
502	5436378	CYLINDER, LOWER (CY-F2ND)
601	KQ10161	LENS ZOOM ASSY
602	5783253	FILTER
603	4592621	RUBBER
604	6409341	HOLDER SENSOR
605	NT10162	FRAME, LENS
606	NX10111	HOOD
607	4592536	RING
609	4827371	BRACKET
700	UE10281	EVF ASSY
⚠701	5319051	CRT(M01KQM07WB)
702	6409361	CRT HOLDER
703	4731871	COVER CRT
704	6594361	RUBBER
⚠705	5242111	DEFLECTION YOKE
706	GH10112	MICROPHONE
707	5887042	CONNECTOR
708	5887043	CONNECTOR
711	4717904	CASE, BOTTOM
712	4717951	NECK BOTTOM
713	4717941	NECK UPPER
714	6952291	LENS ASSY
715	4895942	MIRROR
716	4717922	COVER, FRONT
717	4799871	CAP EYE
720	6409372	HOLDER, CORD
721	6409381	WIRE GUIDE
722	NJ10181	COVER, SHOE
723	4717883	CASE, UPPER
724	QD10221	CASE, FRONT
901	7784373	SCREW
902	8699308	SCREW (2.6X8) BLACK
903	7784785	SCREW
904	8699106	SCREW(2X6)
905	8652406	SCREW (PSW3X6)
906	7775901	SCREW
908	8691105	SCREW(2X5)
909	8650103	SCREW(2X3)
910	MJ10221	SCREW
911	8691106	SCREW (2X6)
951	8741106	SCREW(2X6)
952	8741408	SCREW (B3X8)
953	7782616	SCREW
954	6911101	SCREW
955	8741110	BIND SCREW-2MMDX 10MM
956	MJ10111	SCREW
957	7770831	SCREW
958	7784371	SCREW
959	8691106	SCREW (2X6)

SYMBOL-NO	P-NO	DESCRIPTION
960	7784131	SCREW (3X8)
961	8741104	SCREW(2X4)
963	7770802	SCREW
964	MJ10211	SCREW
965	7773911	WASHER
		ACCESSARIES
802	4133069	STRAP, SHOULDER
⚠803	TS10671	ADAPTOR, AC
805	5856321	CORD DC
851	SP10321	CUSHION
852	SP10331	CUSHION
853	SG10751	BOX, CARTON
		VCR SECTION
C0201	0800218	ELECTROLYTIC 4.7UF 25V
C0202	0893088	CERAMIC CHIP 0.015UF+-10% 16V
C0203	0893002	CERAMIC CHIP 0.033UF+-10% 16V
C0205	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0206	0209895	CERAMIC CHIP 39PF+-5% 50V
C0207	0209848	CERAMIC DISC 150PF+-5% 50V
C0208	0800216	ELECTROLYTIC 2.2UF 50V
C0209	0209903	CERAMIC CHIP 470PF+-5% 50V
C0210	0209939	CERAMIC CHIP 56PF+-5% 50V
C0211	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0212	0800214	ELECTROLYTIC 0.47UF 50V
C0213	0893006	CERAMIC CHIP 0.068UF+-10% 16V
C0214	0209897	CERAMIC CHIP 56PF+-5% 50V
C0215	0806003	ELECTROLYTIC 0.22UF 35V
C0216	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0217	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0218	0209897	CERAMIC CHIP 56PF+-5% 50V
C0220	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0221	0800219	ELECTROLYTIC 10UF 16V
C0223	0800234	ELECTROLYTIC 220UF 6.3V
C0224	0800227	ELECTROLYTIC 47UF 6.3V
C0225	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0226	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0227	0800227	ELECTROLYTIC 47UF 6.3V
C0229	0800215	ELECTROLYTIC 1UF 50V
C0230	0800214	ELECTROLYTIC 0.47UF 50V
C0232	0800227	ELECTROLYTIC 47UF 6.3V
C0233	0806005	ELECTROLYTIC 0.47UF 25V
C0234	0806018	ELECTROLYTIC 2.2UF 6V
C0236	0800214	ELECTROLYTIC 0.47UF 50V
C0237	0893008	CERAMIC CHIP 0.1UF +-10% 16V
C0238	0800218	ELECTROLYTIC 4.7UF 25V
C0239	0893008	CERAMIC CHIP 0.1UF +-10% 16V
C0240	0800214	ELECTROLYTIC 0.47UF 50V
C0241	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0243	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0244	0209846	CERAMIC CHIP 33PF+-10% 50V
C0245	0806005	ELECTROLYTIC 0.47UF 25V
C0246	0209948	CERAMIC CHIP 330PF+-5% 50V
C0247	0806011	ELECTROLYTIC 1.0UF 16V
C0248	0209943	CERAMIC DISC 120PF+-5%
C0249	0806003	ELECTROLYTIC 0.22UF 35V
C0250	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0251	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0252	0800227	ELECTROLYTIC 47UF 6.3V
C0253	0893004	CERAMIC CHIP 0.047UF+-10% 16V
C0254	0800215	ELECTROLYTIC 1UF 50V
C0257	0800221	ELECTROLYTIC 22UF 6.3V

SYMBOL-NO	P-NO	DESCRIPTION
C0258	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0260	0893031	CERAMIC CHIP 1000PF+-10% 50V
C0261	0207525	ELECTROLYTIC 1UF 50V
C0262	0254413	ELECTROLYTIC 56UF 16V
C0263	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0264	0209942	CERAMIC CHIP 100PF+-5% 50V
C0265	0893035	CERAMIC CHIP 2200PF+-10% 50V
C0266	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0267	0209853	CERAMIC DISC 68PF+-5% 50V
C0268	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0269	0209853	CERAMIC DISC 68PF+-5% 50V
C0270	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0271	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0272	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0273	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0274	0800213	ELECTROLYTIC 0.33UF 50V
C0276	0209897	CERAMIC CHIP 56PF+-5% 50V
C0277	0800227	ELECTROLYTIC 47UF 6.3V
C0279	0209891	CERAMIC CHIP 12PF+-5% 50V
C0281	0209846	CERAMIC CHIP 33PF+-10% 50V
C0283	0254413	ELECTROLYTIC 56UF 16V
C0291	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0292	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0294	0209854	CERAMIC DISC 330PF+-5% 50V
C0297	0209892	CERAMIC CHIP 18PF+-5% 50V
C0301	0893002	CERAMIC CHIP 0.033UF+-10% 16V
C0303	0209899	CERAMIC DISC 120PF+-5% 50V
C0304	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0307	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0309	0209848	CERAMIC DISC 150PF+-5% 50V
C0310	0209895	CERAMIC CHIP 39PF+-5% 50V
C0312	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0313	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0316	0209898	CERAMIC CHIP 100PF+-5% 50V
C0318	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0319	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0320	0893031	CERAMIC CHIP 1000PF+-10% 50V
C0321	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0337	0209934	CERAMIC CHIP 22PF+-5% 50V
C0338	0209936	CERAMIC CHIP 33PF+-5% 50V
C0340	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0401	0800221	ELECTROLYTIC 22UF 6.3V
C0402	0800221	ELECTROLYTIC 22UF 6.3V
C0403	0800221	ELECTROLYTIC 22UF 6.3V
C0404	0800214	ELECTROLYTIC 0.47UF 50V
C0405	0800221	ELECTROLYTIC 22UF 6.3V
C0406	0800231	ELECTROLYTIC 100UF 6.3V
C0408	0893031	CERAMIC CHIP 1000PF+-10% 50V
C0409	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0410	0800215	ELECTROLYTIC 1UF 50V
C0411	0209946	CERAMIC CHIP 220PF+-5% 50V
C0414	0893031	CERAMIC CHIP 1000PF+-10% 50V
C0415	0800219	ELECTROLYTIC 10UF 16V
C0416	0800227	ELECTROLYTIC 47UF 6.3V
C0417	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0420	0800215	ELECTROLYTIC 1UF 50V
C0421	0800215	ELECTROLYTIC 1UF 50V
C0422	0800217	ELECTROLYTIC 3.3UF 35V
C0424	0800227	ELECTROLYTIC 47UF 6.3V
C0425	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0426	0893002	CERAMIC CHIP 0.033UF+-10% 16V
C0430	0204273	POLYESTER FILM 6800PF+-5% 100V
C0432	0209856	CERAMIC DISC 220PF+-5% 50V
C0433	0800215	ELECTROLYTIC 1UF 50V
C0434	0800219	ELECTROLYTIC 10UF 16V

SYMBOL-NO	P-NO	DESCRIPTION
C0435	0800231	ELECTROLYTIC 100UF 6.3V
C0448	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0454	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0501	0800217	ELECTROLYTIC 3.3UF 35V
C0502	0254413	ELECTROLYTIC 56UF 16V
C0503	0254413	ELECTROLYTIC 56UF 16V
C0504	0254413	ELECTROLYTIC 56UF 16V
C0505	0800231	ELECTROLYTIC 100UF 6.3V
C0506	0254413	ELECTROLYTIC 56UF 16V
C0507	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0509	0893034	CERAMIC CHIP 1800PF 50V
C0511	0893031	CERAMIC CHIP 1000PF+-10% 50V
C0512	0893031	CERAMIC CHIP 1000PF+-10% 50V
C0513	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0514	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0515	0893031	CERAMIC CHIP 1000PF+-10% 50V
C0523	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0524	0893039	CERAMIC CHIP 470PF+-10% 50V
C0530	0800219	ELECTROLYTIC 10UF 16V
C0531	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0532	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0533	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0601	0800219	ELECTROLYTIC 10UF 16V
C0602	0800219	ELECTROLYTIC 10UF 16V
C0603	0800219	ELECTROLYTIC 10UF 16V
C0604	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0605	0800219	ELECTROLYTIC 10UF 16V
C0606	0800218	ELECTROLYTIC 4.7UF 25V
C0607	0893004	CERAMIC CHIP 0.047UF+-10% 16V
C0608	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0609	0207524	ELECTROLYTIC 0.47UF 50V
C0610	0893002	CERAMIC CHIP 0.033UF+-10% 16V
C0611	0800219	ELECTROLYTIC 10UF 16V
C0613	0800213	ELECTROLYTIC 0.33UF 50V
C0614	0800219	ELECTROLYTIC 10UF 16V
C0615	0207523	ELECTROLYTIC 0.22UF 50V
C0616	0893031	CERAMIC CHIP 1000PF+-10% 50V
C0617	0893031	CERAMIC CHIP 1000PF+-10% 50V
C0618	0800221	ELECTROLYTIC 22UF 6.3V
C0619	0800219	ELECTROLYTIC 10UF 16V
C0620	0209946	CERAMIC CHIP 220PF+-5% 50V
C0621	0893004	CERAMIC CHIP 0.047UF+-10% 16V
C0623	0893031	CERAMIC CHIP 1000PF+-10% 50V
C0624	0800217	ELECTROLYTIC 3.3UF 35V
C0625	0880011	POLYESTER FILM 0.015UF+-10% 50V
C0626	0800216	ELECTROLYTIC 2.2UF 50V
C0628	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0901	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0902	0800221	ELECTROLYTIC 22UF 6.3V
C0903	0893058	CERAMIC CHIP 0.33UF+80-20% 16V
C0904	0800214	ELECTROLYTIC 0.47UF 50V
C0905	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0906	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0909	0209934	CERAMIC CHIP 22PF+-5% 50V
C0911	0209933	CERAMIC CHIP 18PF+-5% 50V
C0912	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0913	0893062	CERAMIC CHIP 1UF+80-20% 16V
C0914	0893058	CERAMIC CHIP 0.33UF+80-20% 16V
C0920	0893002	CERAMIC CHIP 0.033UF+-10% 16V
C0921	0893031	CERAMIC CHIP 1000PF+-10% 50V
C0922	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0923	0893062	CERAMIC CHIP 1UF+80-20% 16V
C0924	0209942	CERAMIC CHIP 100PF+-5% 50V
C0925	0209936	CERAMIC CHIP 33PF+-5% 50V
C0927	0893031	CERAMIC CHIP 1000PF+-10% 50V

SYMBOL-NO	P-NO	DESCRIPTION
C0931	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0932	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0933	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0934	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0935	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0936	0893067	CERAMIC CHIP 0.1UF+80-20% 25V
C0937	0800219	ELECTROLYTIC 10UF 16V
R0201	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0202	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0203	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0204	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0205	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0206	0103869	CHIP RESISTOR 150KOHM+-5% 0.1W
R0212	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R0213	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0216	0104267	CHIP RESISTOR 75 OHM+-1% 1/10W
R0221	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R0222	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0223	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R0224	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R0225	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R0226	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R0227	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R0228	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0229	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R0232	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R0233	0103875	CHIP RESISTOR 470KOHM+-5% 0.1W
R0234	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0235	0103875	CHIP RESISTOR 470KOHM+-5% 0.1W
R0236	0105573	CHIP RESISTOR 130KOHM+-1% 1/10W
R0244	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0245	0103816	CHIP RESISTOR 5.6OHM+-10% 0.1W
R0246	0103816	CHIP RESISTOR 5.6OHM+-10% 0.1W
R0247	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0248	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R0249	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0250	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0251	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0253	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R0254	0103875	CHIP RESISTOR 470KOHM+-5% 0.1W
R0255	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R0256	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0257	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R0258	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R0259	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0262	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0264	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R0265	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0266	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0267	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0270	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R0271	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0272	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0273	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0274	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0275	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0276	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R0277	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R0280	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0282	0103838	RESISTOR CHIP 390 OHM+-5% 0.1W
R0283	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R0284	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R0285	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0286	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0287	0103866	CHIP RESISTOR 82KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION
R0302	0103874	CHIP RESISTOR 390KOHM+-5% 0.1W
R0304	0103834	CHIP RESISTOR 180 OHM+-5% 0.1W
R0307	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R0311	0104111	METAL FILM 10KOHM+-1% 1/10W
R0316	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R0325	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R0401	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0402	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R0403	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0404	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0405	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R0409	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0410	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0411	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0412	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0413	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R0414	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0416	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0417	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0418	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R0419	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R0420	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R0421	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0422	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0423	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R0426	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0427	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R0428	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0429	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0430	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0434	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0437	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0438	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0439	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0461	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R0468	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0481	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0488	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R0489	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0495	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0499	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R0501	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0502	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0503	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R0504	0103864	CHIP RESISTOR 56KOHM+-5% 0.1W
R0505	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0506	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0507	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R0508	0104114	CHIP RESISTOR 3.3KOHM+-1% 0.1W
R0509	0104305	CHIP RESISTOR 6.8KOHM+-0.5% 1/16W
R0513	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R0529	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0534	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0535	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0537	0103825	CHIP RESISTOR 33 OHM+-5% 0.1W
R0538	0103825	CHIP RESISTOR 33 OHM+-5% 0.1W
R0539	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R0540	0104305	CHIP RESISTOR 6.8KOHM+-0.5% 1/16W
R0542	0104305	CHIP RESISTOR 6.8KOHM+-0.5% 1/16W
R0543	0104305	CHIP RESISTOR 6.8KOHM+-0.5% 1/16W
R0546	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R0547	0104304	CHIP RESISTOR 22KOHM+-0.5% 1/16W
R0548	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0549	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0550	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0556	0103827	CHIP RESISTOR 47 OHM+-5% 0.1W
R0557	0103827	CHIP RESISTOR 47 OHM+-5% 0.1W
R0560	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R0601	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R0602	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R0603	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R0604	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0605	0101881	CARBON FILM 0.5 OHM+-5% 1/4W
R0606	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R0607	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0608	0103878	CHIP RESISTOR 820KOHM+-5% 0.1W
R0609	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R0610	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R0611	0104209	CHIP RESISTOR 47 OHM+-0.5% 1/2W
R0613	0103827	CHIP RESISTOR 47 OHM+-5% 0.1W
R0615	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0616	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R0617	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0618	0103872	CHIP RESISTOR 270KOHM+-5% 0.1W
R0619	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0620	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0621	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0622	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0623	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0624	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0625	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R0626	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0627	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0629	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0630	0103869	CHIP RESISTOR 150KOHM+-5% 0.1W
R0631	0103838	RESISTOR CHIP 390 OHM+-5% 0.1W
R0632	0103838	RESISTOR CHIP 390 OHM+-5% 0.1W
R0633	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0634	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0635	0103877	CHIP RESISTOR 680KOHM+-5% 0.1W
R0636	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0637	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0801	5172541	FILTER
R0802	5172541	FILTER
R0803	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R0804	5172541	FILTER
R0806	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0901	0104111	METAL FILM 10KOHM+-1% 1/10W
R0902	0104262	CHIP RESISTOR 6.8KOHM+-1% 0.1W
R0903	0104111	METAL FILM 10KOHM+-1% 1/10W
R0904	0104121	METAL FILM 27KOHM+-1% 1/10W
R0905	0103834	CHIP RESISTOR 180 OHM+-5% 0.1W
R0906	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R0907	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0908	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R0910	0103873	CHIP RESISTOR 330KOHM+-5% 0.1W
R0911	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R0912	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0913	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0914	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R0915	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0916	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0917	0103876	CHIP RESISTOR 560KOHM+-5% 0.1W
R0918	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0919	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0920	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0921	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0922	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0923	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0924	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION
R0925	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0926	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0927	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0928	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0929	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0930	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0931	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0932	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0933	0104262	CHIP RESISTOR 6.8KOHM+-1% 0.1W
R0934	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R0935	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R0936	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R0937	0104242	METAL FILM 4.3KOHM+-5% 1/10W
R0938	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R0939	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0940	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0948	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R0949	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0950	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0951	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0953	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0955	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R0957	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0959	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0960	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0961	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0962	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0963	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0964	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0965	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0966	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0967	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R0968	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R0969	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R0972	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0973	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0974	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0975	0104111	METAL FILM 10KOHM+-1% 1/10W
R0976	0104111	METAL FILM 10KOHM+-1% 1/10W
R0978	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R0979	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R0980	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0981	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0982	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0983	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0986	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R0987	0103830	CHIP RESISTOR 82 OHM+-5% 0.1W
R0988	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0992	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0993	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R0995	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R0996	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R0997	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R0998	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R0999	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
RT0601	5040162	TRIMMER
D0001	5380931	LED GL450
D0201	5328304	DIODE MA152WA (MO)
D0202	5328304	DIODE MA152WA (MO)
D0204	5337211	DIODE DAN217
D0208	5337211	DIODE DAN217
D0402	5328304	DIODE MA152WA (MO)
D0403	5328304	DIODE MA152WA (MO)
D0406	5337211	DIODE DAN217
D0408	5337211	DIODE DAN217
D0501	5337391	DIODE D1FS4
D0503	5337371	DIODE SB07-03C
D0504	5328304	DIODE MA152WA (MO)
D0505	5328304	DIODE MA152WA (MO)
D0506	5337211	DIODE DAN217
D0601	5337211	DIODE DAN217
D0901	5337371	DIODE SB07-03C
D0902	5328304	DIODE MA152WA (MO)
D0903	5328304	DIODE MA152WA (MO)
D0904	5328304	DIODE MA152WA (MO)
D0905	5328304	DIODE MA152WA (MO)
D0906	5328304	DIODE MA152WA (MO)
IC0201	CK10581U	IC HA118186F
IC0202	CK10591R	IC MSM7458MS
IC0203	1352311	IC HA118041
IC0204	1352512	IC BA7046F
IC0401	1350282	IC XRA7757BK
IC0501	CK10542	IC BA9706K
IC0601	1366862	IC HD49781AF
IC0602	1360072	IC XRA6459PI
IC0901	1365747	IC HD6433724B86H
IC0902	1352582	IC S-84206F
IC0903	1366612	IC XLU5949AFS
IC0904	1366651	IC BA6417F
IC0905	5305131	IC TC4SU69F
Q0001	5324661	PHOTO TRANSISTOR PT-483F1
Q0002	5333952	IC ON2170LH
Q0003	5324661	PHOTO TRANSISTOR PT-483F1
Q0004	5333391	IC NJM5161K-B
Q0201	5328791	TRANSISTOR DTC124K(25)
Q0205	5326752	TRANSISTOR DTA123YK
Q0206	5326752	TRANSISTOR DTA123YK
Q0207	5326205	TRANSISTOR FMG5
Q0208	5328791	TRANSISTOR DTC124K(25)
Q0209	5328791	TRANSISTOR DTC124K(25)
Q0211	5328335	TRANSISTOR 2SB709A-RS-T
Q0212	5328335	TRANSISTOR 2SB709A-RS-T
Q0214	5328193	TRANSISTOR 2SC2462C (LC)
Q0217	CA10151R	TRANSISTOR RU201
Q0219	5328193	TRANSISTOR 2SC2462C (LC)
Q0220	5326254	TRANSISTOR DTC143TK
Q0230	5328335	TRANSISTOR 2SB709A-RS
Q0404	5326693	TRANSISTOR FMY3
Q0405	5328351	TRANSISTOR 2SD602(WR)
Q0407	5326752	TRANSISTOR DTA123YK
Q0408	5326691	TRNSISTOR FMW3
Q0501	5326206	TRANSISTOR FMC2
Q0502	5326502	TRANSISTOR 2SD1766 (R)
Q0503	1323211	TRANSISTOR 2SB1121-ST
Q0504	1308011	TRANSISTOR MPL1
Q0505	5326693	TRANSISTOR FMY3
Q0506	5328791	TRANSISTOR DTC124K(25)
Q0507	5328335	TRANSISTOR 2SB709A-RS-T
Q0508	5326502	TRANSISTOR 2SD1766 (R)
Q0509	5328193	TRANSISTOR 2SC2462 (LC)
Q0510	5326502	TRANSISTOR 2SD1766 (R)
Q0901	5326491	TRNSISTOR IMX1 (X1)
Q0902	5328335	TRANSISTOR 2SB709A-RS-T
Q0903	5328193	TRANSISTOR 2SC2462 (LC)
Q0904	5328193	TRANSISTOR 2SC2462 (LC)
Q0905	5328193	TRANSISTOR 2SC2462 (LC)
Q0908	5328791	TRANSISTOR DTC124K(25)
Q0910	5328791	TRANSISTOR DTC124K(25)
ZD0203	5328666	DIODE MA3075H
ZD0205	5328666	DIODE MA3075H

SYMBOL-NO	P-NO	DESCRIPTION
ZD0501	5328666	DIODE MA3075H
ZD0902	5328668	DIODE MA3062L
T0402	5261413	COIL, BIAS
L0201	0770012	COIL 12UH
L0202	0770014	COIL 18UH+-5%
L0204	0770017	COIL 33UH+-5%
L0205	0770107	COIL, CHOKE 100UH+-5%
L0206	0770107	COIL, CHOKE 100UH+-5%
L0207	0770023	COIL 82UH
L0208	0770107	COIL, CHOKE 100UH+-5%
L0209	0770107	COIL, CHOKE 100UH+-5%
L0210	0770107	COIL, CHOKE 100UH+-5%
L0212	0770016	COIL 27UH+-5%
L0213	0770011	COIL 10UH+-5%
L0214	0770019	COIL 47UH
L0215	0770015	COIL 22UH+-5%
L0216	0770022	COIL 68UH+-5%
L0221	0770028	COIL 220UH+-5%
L0222	0770016	COIL 27UH+-5%
L0227	0770024	COIL 100UH+-5%
L0231	0770119	COIL, CHOKE 820UH+-5%
L0233	0770103	COIL, CHOKE 47UH+-5%
L0401	0770112	COIL, CHOKE 220UH+-5%
L0402	0770107	COIL, CHOKE 100UH+-5%
L0501	BH10111R	COIL 22UH
L0502	BH10113R	COIL 100UH
L0503	BH10111R	COIL 22UH
L0504	0770101	CHOKE COIL 33UH
L0505	BH10112R	COIL 47UH
L0901	0770015	COIL 22UH+-5%
L0902	0770013	COIL 15UH+-5%
L0903	0770094	COIL, CHOKE 10UH+-5%
CX0201	BP10181G	CRYSTAL
CX0901	1930221	CRYSTAL
CX0902	1930031	CRYSTAL
CN0201	5847073	CONNECTOR
CN0402	5846287	CONNECTOR
CN0403	5846345	MINI CONNECTOR
CN0902	EF10173	CONNECTOR
CN0903	EF10172	CONNECTOR
CN0905	5813841	MINI CONNECTOR
CN0909	EF10171	CONNECTOR
CN0912	5842026	MINI CONNECTOR
CP0201	BJ10111	LC FILTER
CP0202	5163932	FILTER
DL0201	5786333	DELAY LINE
F0501	5723232	FUSE 2A1125V
JK0401	ES10112	JACK
JK0501	5693501	JACK, DC
LD0901	CC10141R	TRANSISTOR MSMSC650
LI0901	5761771	BATTERY, BACK UP VL2320
PG0201	1830231	SOCKET
PG0401	5661688	MINI PLUG
PG0402	5666146	MINI PLUG
PG0403	5666561	MINI PLUG
PG0601	EA10151R	CONNECTOR
PG0602	5666619	MINI PLUG
PG0603	5666168	MINI PLUG
PG0901	5668891	MINI PLUG
PG0902	5666434	PLUG
PG0903	5666433	PLUG
PG0905	5666143	MINI PLUG
PG0908	5661691	MINI PLUG
PG0909	5666431	PLUG
PG0911	5666606	MINI PLUG

SYMBOL-NO	P-NO	DESCRIPTION
PG0912	5666198	MINI PLUG
S0001	5601822	SWITCH
S0002	5635331	SWITCH
S0901	5621951	SWITCH
S0902	5634884	SWITCH
S0903	5634884	SWITCH
S0904	5634884	SWITCH
S0905	5634884	SWITCH
S0907	5634863	SWITCH
S0908	5634863	SWITCH
S0909	5634884	SWITCH
S0910	5634884	SWITCH
S0911	5634884	SWITCH
S0912	5635133	SWITCH

CAMERA SECTION

C1051	0206648	ELECTROLYTIC 33UF 10V
C1052	0893223	CERAMIC CHIP 0.047UF+80-20% 16V
C1053	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1054	0893227	CERAMIC CHIP 0.22UF+80-20% 16V
C1055	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1057	0806158	ELECTROLYTIC 22UF 16V
C1058	0893223	CERAMIC CHIP 0.047UF+80-20% 16V
C1059	0893223	CERAMIC CHIP 0.047UF+80-20% 16V
C1060	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1061	0893114	CERAMIC CHIP 12PF+-5% 50V
C1101	0893117	CERAMIC CHIP 22PF+-5% 50V
C1102	0893086	CERAMIC CHIP 0.1UF+80-20% 50V
C1103	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1104	0806018	ELECTROLYTIC 2.2UF 6V
C1105	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1106	0893188	CERAMIC CHIP 0.047UF+-10% 16V
C1107	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1108	0806167	ELECTROLYTIC 47UF 4V
C1109	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1110	0806167	ELECTROLYTIC 47UF 4V
C1111	0893227	CERAMIC CHIP 0.22UF+80-20% 16V
C1112	0806174	ELECTROLYTIC 100UF 6.3V
C1113	0893227	CERAMIC CHIP 0.22UF+80-20% 16V
C1114	0806157	ELECTROLYTIC 22UF 6.3V
C1115	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1116	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1117	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1118	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1119	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1120	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1121	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1122	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1123	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1124	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1125	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1126	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1129	0893121	CERAMIC CHIP 39PF+-5% 50V
C1130	0893121	CERAMIC CHIP 39PF+-5% 50V
C1131	0893124	CHIP CERAMIC 68PF+-5% 50V
C1132	0893125	CERAMIC CHIP 82PF+-5% 50V
C1137	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1141	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1142	0893055	CERAMIC CHIP 0.1UF+80-20% 16V
C1143	0893055	CERAMIC CHIP 0.1UF+80-20% 16V
C1144	0806153	ELECTROLYTIC 10UF 16V
C1145	0893117	CERAMIC CHIP 22PF+-5% 50V
C1146	0806173	ELECTROLYTIC 100UF 4V
C1147	0893225	CERAMIC CHIP 0.1UF+80-20% 16V

SYMBOL-NO	P-NO	DESCRIPTION
C1149	0806168	ELECTROLYTIC 47UF 6.3V
C1151	0893117	CERAMIC CHIP 22PF+-5% 50V
C1152	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1153	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1154	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1155	0806153	ELECTROLYTIC 10UF 16V
C1156	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1157	0893119	CERAMIC CHIP 33PF+-5% 50V
C1158	0893013	CERAMIC CHIP 0.22UF+-10% 16V
C1159	0893202	CERAMIC CHIP 330PF+-10% 50V
C1160	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1162	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1163	0206651	ELECTROLYTIC 10UF 16V
C1164	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1165	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1166	0806153	ELECTROLYTIC 10UF 16V
C1168	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1169	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1170	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1173	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1177	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1179	0806168	ELECTROLYTIC 47UF 6.3V
C1180	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1181	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1182	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1183	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1184	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1186	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1187	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1188	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1189	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1190	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1191	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1195	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1196	0893058	CERAMIC CHIP 0.33UF+80-20% 16V
C1197	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1216	0806027	ELECTROLYTIC 4.7UF 4V
C1220	0893227	CERAMIC CHIP 0.22UF+80-20% 16V
C1223	0893225	CERAMIC CHIP 0.1UF+80-20% 16V
C1225	0893186	CERAMIC CHIP 0.033UF+-10% 16V
C1226	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1227	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1228	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1229	0806153	ELECTROLYTIC 10UF 16V
C1304	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1310	0893227	CERAMIC CHIP 0.22UF+80-20% 16V
C1312	0893227	CERAMIC CHIP 0.22UF+80-20% 16V
C1314	0893227	CERAMIC CHIP 0.22UF+80-20% 16V
C1315	0806168	ELECTROLYTIC 47UF 6.3V
C1316	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1317	0893222	CERAMIC CHIP 0.01UF+-10% 50V
C1318	0893222	CERAMIC CHIP 0.01UF+-10% 50V
C1319	0893222	CERAMIC CHIP 0.01UF+-10% 50V
C1320	0893215	CERAMIC CHIP 3300PF+-10% 50V
C1321	0893222	CERAMIC CHIP 0.01UF+-10% 50V
C1322	0893222	CERAMIC CHIP 0.01UF+-10% 50V
C1323	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1324	0893222	CERAMIC CHIP 0.01UF+-10% 50V
C1325	0893222	CERAMIC CHIP 0.01UF+-10% 50V
C1326	0893222	CERAMIC CHIP 0.01UF+-10% 50V
C1327	0893215	CERAMIC CHIP 3300PF+-10% 50V
C1328	0893222	CERAMIC CHIP 0.01UF+-10% 50V
C1329	0893222	CERAMIC CHIP 0.01UF+-10% 50V
C1330	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1331	0893239	CERAMIC CHIP 0.01UF+80-20% 50V

SYMBOL-NO	P-NO	DESCRIPTION
C1332	0806169	ELECTROLYTIC 47UF 16V
C1333	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1337	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1338	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1401	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1402	0893201	CERAMIC CHIP 270PF 50V
C1404	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1405	0893007	CERAMIC CHIP 0.082UF+-10% 16V
C1406	0893013	CERAMIC CHIP 0.22UF+-10% 16V
C1407	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1408	0893202	CERAMIC CHIP 330PF+-10% 50V
C1410	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1411	0893113	CERAMIC CHIP 10PF+-0.5% 50V
C1412	0893202	CERAMIC CHIP 330PF+-10% 50V
C1416	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1417	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1418	0806168	ELECTROLYTIC 47UF 6.3V
C1419	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
C1420	0893239	CERAMIC CHIP 0.01UF+80-20% 50V
R1054	0790077	CHIP RESISTOR 1MOHM+-5% 1/16W
R1055	0790024	CHIP RESISTOR 100 OHM+-5% 1/16W
R1057	0790024	CHIP RESISTOR 100 OHM+-5% 1/16W
R1058	0790045	CHIP RESISTOR 3.9KOHM+-5% 1/16W
R1059	0790077	CHIP RESISTOR 1MOHM+-5% 1/16W
R1100	0790051	CHIP RESISTOR 10KOHM+-5% 1/16W
R1101	0790068	CHIP RESISTOR 220KOHM+-5% 1/16W
R1102	0790055	CHIP RESISTOR 22KOHM+-5% 1/16W
R1103	0790055	CHIP RESISTOR 22KOHM+-5% 1/16W
R1104	0790055	CHIP RESISTOR 22KOHM+-5% 1/16W
R1105	0790053	CHIP RESISTOR 15KOHM+-5% 1/16W
R1106	0790037	CHIP RESISTOR 1KOHM+-5% 1/16W
R1107	0790028	CHIP RESISTOR 220 OHM+-5% 1/16W
R1108	0790027	CHIP RESISTOR 180 OHM+-5% 1/16W
R1109	0790027	CHIP RESISTOR 180 OHM+-5% 1/16W
R1110	0790019	CHIP RESISTOR 47 OHM+-5% 1/16W
R1113	0790077	CHIP RESISTOR 1MOHM+-5% 1/16W
R1114	0790032	CHIP RESISTOR 390 OHM+-5% 1/16W
R1115	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1119	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1125	0104558	CHIP RESISTOR 5.6KOHM+-1% 1/16W
R1127	0104559	CHIP RESISTOR 4.7KOHM+-1% 1/16W
R1128	0104544	CHIP RESISTOR 75KOHM+-1% 1/16W
R1129	0790038	CHIP RESISTOR 1.2KOHM+-5% 1/16W
R1130	0790042	CHIP RESISTOR 2.2KOHM+-5% 1/16W
R1131	0790043	CHIP RESISTOR 2.7KOHM+-5% 1/16W
R1133	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1134	0104554	CHIP RESISTOR 1KOHM+-1% 1/16W
R1135	0790037	CHIP RESISTOR 1KOHM+-5% 1/16W
R1144	0790058	CHIP RESISTOR 39KOHM+-5% 1/16W
R1145	0790077	CHIP RESISTOR 1MOHM+-5% 1/16W
R1151	0790043	CHIP RESISTOR 2.7KOHM+-5% 1/16W
R1152	0790034	CHIP RESISTOR 560 OHM+-5% 1/16W
R1154	0790042	CHIP RESISTOR 2.2KOHM+-5% 1/16W
R1155	0790042	CHIP RESISTOR 2.2KOHM+-5% 1/16W
R1156	0790042	CHIP RESISTOR 2.2KOHM+-5% 1/16W
R1161	0790064	CHIP RESISTOR 100KOHM+-5% 1/16W
R1162	0790037	CHIP RESISTOR 1KOHM+-5% 1/16W
R1163	0790051	CHIP RESISTOR 10KOHM+-5% 1/16W
R1164	0790037	CHIP RESISTOR 1KOHM+-5% 1/16W
R1170	0790059	CHIP RESISTOR 47KOHM+-5% 1/16W
R1171	0790059	CHIP RESISTOR 47KOHM+-5% 1/16W
R1174	0790037	CHIP RESISTOR 1KOHM+-5% 1/16W
R1175	0790064	CHIP RESISTOR 100KOHM+-5% 1/16W
R1183	0790052	CHIP RESISTOR 12KOHM+-5% 1/16W
R1184	0790066	CHIP RESISTOR 150KOHM+-5% 1/16W

SYMBOL-NO	P-NO	DESCRIPTION
R1185	0790063	CHIP RESISTOR 82KOHM+-5% 1/16W
R1186	0790052	CHIP RESISTOR 12KOHM+-5% 1/16W
R1188	0790057	CHIP RESISTOR 33KOHM+-5% 1/16W
R1189	0790059	CHIP RESISTOR 47KOHM+-5% 1/16W
R1203	0790037	CHIP RESISTOR 1KOHM+-5% 1/16W
R1225	0790064	CHIP RESISTOR 100KOHM+-5% 1/16W
R1226	0790064	CHIP RESISTOR 100KOHM+-5% 1/16W
R1237	0790059	CHIP RESISTOR 47KOHM+-5% 1/16W
R1238	0790051	CHIP RESISTOR 10KOHM+-5% 1/16W
R1239	0790037	CHIP RESISTOR 1KOHM+-5% 1/16W
R1240	0790045	CHIP RESISTOR 3.9KOHM+-5% 1/16W
R1241	0790037	CHIP RESISTOR 1KOHM+-5% 1/16W
R1242	0790037	CHIP RESISTOR 1KOHM+-5% 1/16W
R1251	0790037	CHIP RESISTOR 1KOHM+-5% 1/16W
R1252	0790051	CHIP RESISTOR 10KOHM+-5% 1/16W
R1253	0790037	CHIP RESISTOR 1KOHM+-5% 1/16W
R1254	0790064	CHIP RESISTOR 100KOHM+-5% 1/16W
R1271	0104545	CHIP RESISTOR 1.24KOHM+-1% 1/16W
R1275	0790062	CHIP RESISTOR 68KOHM+-5% 1/16W
R1277	0790042	CHIP RESISTOR 2.2KOHM+-5% 1/16W
R1285	0790042	CHIP RESISTOR 2.2KOHM+-5% 1/16W
R1286	0790042	CHIP RESISTOR 2.2KOHM+-5% 1/16W
R1287	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1289	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1290	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1291	0790034	CHIP RESISTOR 560 OHM+-5% 1/16W
R1301	0790055	CHIP RESISTOR 22KOHM+-5% 1/16W
R1302	0790055	CHIP RESISTOR 22KOHM+-5% 1/16W
R1305	0104518	CHIP RESISTOR 2.87KOHM+-1% 1/16W
R1307	0790032	CHIP RESISTOR 390 OHM+-5% 1/16W
R1308	0790061	CHIP RESISTOR 56KOHM+-5% 1/16W
R1309	0790032	CHIP RESISTOR 390 OHM+-5% 1/16W
R1310	0790061	CHIP RESISTOR 56KOHM+-5% 1/16W
R1311	0103813	CHIP RESISTOR 3.3 OHM+-10% 0.1W
R1313	0790051	CHIP RESISTOR 10KOHM+-5% 1/16W
R1314	0790051	CHIP RESISTOR 10KOHM+-5% 1/16W
R1315	0103813	CHIP RESISTOR 3.3 OHM+-10% 0.1W
R1316	0103813	CHIP RESISTOR 3.3 OHM+-10% 0.1W
R1318	0790051	CHIP RESISTOR 10KOHM+-5% 1/16W
R1319	0790051	CHIP RESISTOR 10KOHM+-5% 1/16W
R1320	0103813	CHIP RESISTOR 3.3 OHM+-10% 0.1W
R1321	0790055	CHIP RESISTOR 22KOHM+-5% 1/16W
R1322	0790055	CHIP RESISTOR 22KOHM+-5% 1/16W
R1323	0790051	CHIP RESISTOR 10KOHM+-5% 1/16W
R1326	0790051	CHIP RESISTOR 10KOHM+-5% 1/16W
R1352	0103815	CHIP RESISTOR 4.7OHM+-10% 0.1W
R1353	0105675	CHIP RESISTOR 100KOHM+-1% 1/16W
R1354	0105685	CHIP RESISTOR 330KOHM+-1% 1/16W
R1355	0105675	CHIP RESISTOR 100KOHM+-1% 1/16W
R1356	0105685	CHIP RESISTOR 330KOHM+-1% 1/16W
R1359	0103815	CHIP RESISTOR 4.7OHM+-10% 0.1W
R1401	0790024	CHIP RESISTOR 100 OHM+-5% 1/16W
R1402	0790024	CHIP RESISTOR 100 OHM+-5% 1/16W
R1403	0790039	CHIP RESISTOR 1.5KOHM+-5% 1/16W
R1404	0790064	CHIP RESISTOR 100KOHM+-5% 1/16W
R1405	0790069	CHIP RESISTOR 0.27MOHM+-5% 1/16W
R1406	0790053	CHIP RESISTOR 15KOHM+-5% 1/16W
R1408	0790077	CHIP RESISTOR 1MOHM+-5% 1/16W
R1409	0790051	CHIP RESISTOR 10KOHM+-5% 1/16W
R1411	0790064	CHIP RESISTOR 100KOHM+-5% 1/16W
R1413	0790027	CHIP RESISTOR 180 OHM+-5% 1/16W
R1414	0790031	CHIP RESISTOR 330 OHM+-5% 1/16W
R1415	0790064	CHIP RESISTOR 100KOHM+-5% 1/16W
R1416	0790054	CHIP RESISTOR 18KOHM+-5% 1/16W
R1417	0790051	CHIP RESISTOR 10KOHM+-5% 1/16W

SYMBOL-NO	P-NO	DESCRIPTION
R1418	0790053	CHIP RESISTOR 15KOHM+-5% 1/16W
R1419	0790053	CHIP RESISTOR 15KOHM+-5% 1/16W
R1420	0790071	CHIP RESISTOR 330KOHM+-5% 1/16W
R1421	0790068	CHIP RESISTOR 220KOHM+-5% 1/16W
R1422	0790071	CHIP RESISTOR 330KOHM+-5% 1/16W
R1423	0790068	CHIP RESISTOR 220KOHM+-5% 1/16W
R1424	0790064	CHIP RESISTOR 100KOHM+-5% 1/16W
R1425	0790064	CHIP RESISTOR 100KOHM+-5% 1/16W
R1426	0790064	CHIP RESISTOR 100KOHM+-5% 1/16W
R1430	0790064	CHIP RESISTOR 100KOHM+-5% 1/16W
R1431	0104552	CHIP RESISTOR 6.8KOHM+-1% 1/16W
R1432	0104558	CHIP RESISTOR 5.6KOHM+-1% 1/16W
R1433	0104504	CHIP RESISTOR 56K OHM 1/16W
R1434	0790056	CHIP RESISTOR 27KOHM+-5% 1/16W
R1435	0790072	CHIP RESISTOR 390KOHM+-5% 1/16W
R1436	0790046	CHIP RESISTOR 4.7KOHM+-5% 1/16W
D1101	5337641	DIODE HSM107S
D1102	5337371	DIODE SB07-03C
D1106	5337351	DIODE MA132WK
D1107	5337353	DIODE MA132K
D1108	5337353	DIODE MA132K
D1109	5337451	DIODE RB715F
D1111	5337353	DIODE MA132K
D1112	5337351	DIODE MA132WK
D1116	5337353	DIODE MA132K
D1117	5337353	DIODE MA132K
D1120	5337211	DIODE DAN217
D1301	5337422	DIODE DA221
D1306	5337422	DIODE DA221
D1307	5337422	DIODE DA221
D1308	5337451	DIODE RB715F
IC1051	DJ10121	IC MN3716MFE
IC1101	1366681	IC HA118184F
IC1102	1365392	IC HD49319F
IC1103	1366692	IC HG51B025TF
IC1105	1366731	IC UPD16508GB-2A5
IC1106	CK10601U	IC HD6433378V08F
IC1107	1366951	IC S-2939G1F10G
IC1108	1340203	IC RH5RA52
IC1112	1366081	IC HD74HCT125T
IC1113	1365592	IC RN5VT28AA-TL
IC1116	1340204	IC RH5RA35
IC1301	CK10561U	IC SC78054GC-017-3B9
IC1302	1366801	IC XPC17A85VMEL
IC1303	1366801	IC XPC17A85VMEL
IC1308	1366061	IC SN74HCT04ADB
IC1309	1366081	IC HD74HCT125T
IC1401	1365191	IC NJM3414M
IC1402	1352651	IC NJM3403AV
IC1403	1359931	IC TC4W66F
Q1053	5328221	TRANSISTOR 2SC2620-QC
Q1101	1323231	TRANSISTOR 2SB1462
Q1102	1323171	TRANSISTOR UN9213
Q1103	1323081	TRANSISTOR 2SA1036K
Q1104	1323231	TRANSISTOR 2SB1462
Q1106	1323231	TRANSISTOR 2SB1462
Q1107	1323171	TRANSISTOR UN9213
Q1111	1323781	TRANSISTOR 2SK1764
Q1120	1323251	TRANSISTOR XP4601
Q1401	1323253	TRANSISTOR XP4401
Q1402	1323321	TRANSISTOR 2SD2216
T1101	5148332	TRANSFORMERS
L1101	0773092	CHOKE COIL 47UH+-10%
L1102	0773087	CHOKE COIL 10UH+-10%
L1103	0773087	CHOKE COIL 10UH+-10%

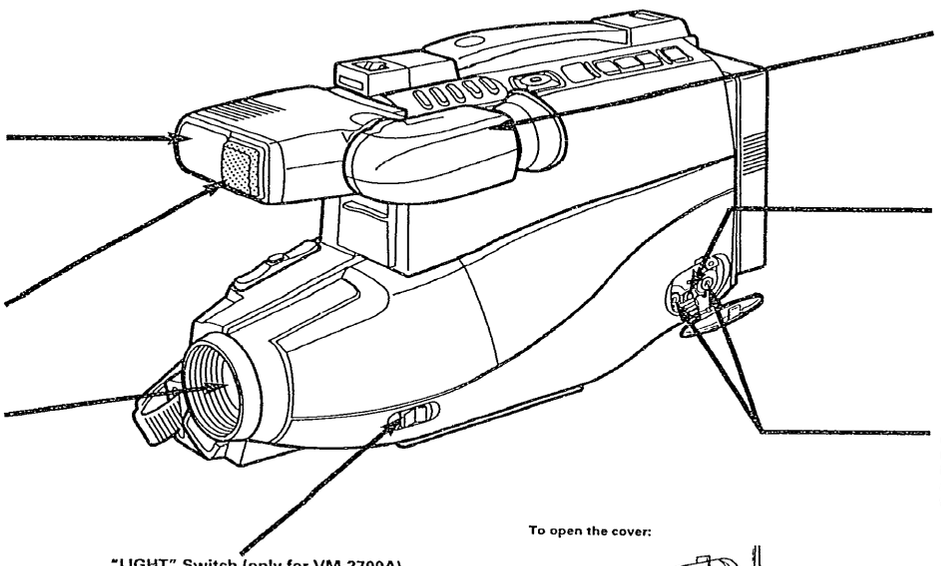
SYMBOL-NO	P-NO	DESCRIPTION
L1104	0773094	CHOKE COIL 100UH+-10%
L1105	0773087	CHOKE COIL 10UH+-10%
L1106	0773087	CHOKE COIL 10UH+-10%
L1107	0773087	CHOKE COIL 10UH+-10%
L1108	0773087	CHOKE COIL 10UH+-10%
L1109	0773092	CHOKE COIL 47UH+-10%
L1110	0773092	CHOKE COIL 47UH+-10%
L1301	0773087	CHOKE COIL 10UH+-10%
L1302	0773086	COIL 6.8UH
L1401	0773087	CHOKE COIL 10UH+-10%
X1101	1930094	CRYSTAL
BL1111	5172541	FILTER
BL1112	5172541	FILTER
BL1173	5172541	FILTER
BL1288	5172541	FILTER
BL1293	5172541	FILTER
CN1015	1880356	CONNECTOR
CP1102	5172802	FILTER, LOW PASS
PG1012	5669169	PLUG
PG1014	5669167	MINI PLUG
PG1015	5668756	PLUG
PG1031	5669094	PLUG

ELECTRONIC VIEWFINDER SECTION

SYMBOL-NO	P-NO	DESCRIPTION
C2001	0255134	ELECTROLYTIC 47UF 16V
C2002	0255134	ELECTROLYTIC 47UF 16V
C2004	0268443	CAPACITOR 3000PF 1000V
C2005	0256871	ELECTROLYTIC 47UF 25V
C2006	0249655	CERAMIC CHIP 1000PF+-10% 1000V
C2007	0249656	CERAMIC CHIP 1000PF+-10% 500V
C2008	0806146	ELECTROLYTIC 2.2UF 50V
C2009	0893086	CERAMIC CHIP 0.1UF+80-20% 50V
C2011	0209898	CERAMIC CHIP 100PF+-5% 50V
C2012	0893086	CERAMIC CHIP 0.1UF+80-20% 50V
C2013	0893086	CERAMIC CHIP 0.1UF+80-20% 50V
C2014	0268521	MYLAR 0.1UF+-10% 50V
C2015	0202303	CERAMIC CHIP 2200PF 50V
C2016	0893044	CERAMIC CHIP 0.01UF+-10% 50V
C2017	0806145	ELECTROLYTIC 1UF 50V
C2018	0893062	CERAMIC CHIP 1UF+80-20% 16V
C2019	0893086	CERAMIC CHIP 0.1UF+80-20% 50V
R2001	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R2002	0103869	CHIP RESISTOR 150KOHM+-5% 0.1W
R2003	0103876	CHIP RESISTOR 560KOHM+-5% 0.1W
R2004	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R2005	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R2006	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R2007	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R2008	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R2011	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2012	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R2013	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2014	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R2015	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R2016	0103814	CHIP RESISTOR 3.9 OHM+-10% 0.1W
R2018	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R2019	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R2020	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R2021	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2022	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R2024	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R2025	0103874	CHIP RESISTOR 390KOHM+-5% 0.1W
R2026	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2027	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION
R2029	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R2030	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2037	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
RT2001	5035204	SEMI VARIABLE 2.2MOHM
RT2002	5030251	SEMI VARIABLE 1MOHM
RT2003	5040103	SEMI VARIABLE 470 OHM
D2002	5337321	DIODE MA199
IC2001	1351631	IC HA118121FD
Q2001	5323831	TRANSISTOR 2SD974
Q2002	5328241	TRANSISTOR 2SC2463E(DE)
△T2001	5240565	TRANSFORMER, FLYBACK
L2001	0773004	COIL 100UH
L2002	5244016	COIL
△CS2001	5887002	MINI CONNECTOR
PG2001	5661688	MINI PLUG
PG2002	5661691	MINI PLUG

IDENTIFICATION AND OPERATION OF CONTROLS



Camera Light (only for VM-2700A)
When the "POWER" switch is in the "CAM" position, the camera light is turned on and off automatically or manually in the record and record pause modes depending on the position of "LIGHT" switch. Turn the camera light off after use.

NOTE: The camera light turns on only in the record and record pause modes.

Microphone
Sensitive to sounds coming from the direction in which the camera is pointed.

Lens (with Lens Cap)
F1.8 (5 ~ 60 mm) 12:1 power zoom lens features auto focus and auto iris functions.

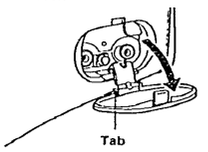
Electronic Viewfinder (EVF)
Displays what the camera/recorder lens sees. The electronic viewfinder also functions as a convenient black-and-white monitor during playback of recorded material.

"RF DC OUT" Jack
Connect the RF converter unit (optional) to this jack.

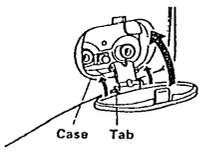
"AUDIO/VIDEO" Jacks
Connect the video/audio cord (not provided) to these jacks and to the audio and video inputs of your TV/monitor receiver. You can also connect the RF converter unit (optional) to these jacks and your TV receiver.

"LIGHT" Switch (only for VM-2700A)
When this switch is set to "AUTO", the camera light turns on or off automatically according to the brightness of the object.
When the switch is set to "ON", the camera light turns on.
Set the switch to "OFF" to turn the light off manually.

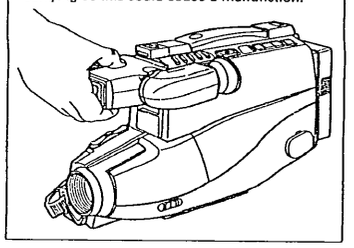
To open the cover:



To close the cover, first hook the tab onto the case.



CAUTION:
Do not hold the unit by the viewfinder when carrying as this could cause a malfunction.



"TITLE" Button
Press this button to create and record personalized titles on your videos with the camera/recorder's built-in titler.
(See "TITLE RECORDING" on page 26.)

"DATE/TIME" Button
Press this button to display the date and time in the viewfinder.
Whenever the date and time appear in the viewfinder, they will be recorded on the tape.

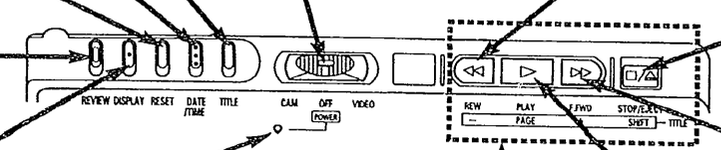
"RESET" Button
When the linear time counter is displayed in the viewfinder, pressing this button resets the counter to "0:00:00".

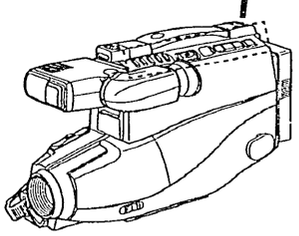
"REVIEW" Button
Used to review the last few seconds of the recorded segment in the record/pause mode.
(See "INSTANT REVIEW" on page 24.)

"DISPLAY" Button
If this button is pressed, "M" appears beside the linear time counter in the viewfinder and the tape's 0:00:00 position is stored in memory. If the camera/recorder is connected to a TV/monitor receiver, the same display as that in the viewfinder appears on the screen when "M" is displayed.
(See "DISPLAY BUTTON" and "MEMORY" on pages 25 and 30.)

"POWER" Light

"POWER" Switch
This switch changes the camera/recorder to the record mode or to the playback mode.
Press and hold the small button on this switch, and then slide it to "CAM" or "VIDEO".





- These buttons are used for title making buttons when the "TITLE" button is pressed. (See "TITLE RECORDING" on page 26.)
- These buttons may be also used to set the date and time during pause (stand-by) mode. (See "DATE/TIME SETTING" on page 20.)

"REW" Button
Press this button during stop or fast forward mode, and fast-rewinding starts. "◀◀" appears in the viewfinder. Press the button during playback of tape, and the tape is played back in the rewind direction approximately 3 times faster than the normal speed to confirm the recorded contents.
Press "PLAY" button to return to normal playback mode or press "STOP/EJECT" button to stop tape movement.

NOTE: You can also visually scan backward when the camera/recorder is in record/pause (stand-by) mode by pressing and holding this button.

"STOP/EJECT" Button
- The "STOP/EJECT" button is used to stop playback, rewind, and fast forward operations. The "STOP/EJECT" button has no effect during record operation.

"F.FWD" Button
Press this button during stop or rewind mode, and fast-forwarding starts. "▶▶" appears in the viewfinder.
Press the button during playback of tape, and the tape is played back in the forward direction approximately 3 times faster than the normal speed to confirm the recorded content.
Press "PLAY" button to return to normal playback mode or press "STOP/EJECT" button to stop tape movement.

NOTE: You can also visually scan forward when the camera/recorder is in record/pause (stand-by) mode by pressing and holding this button.

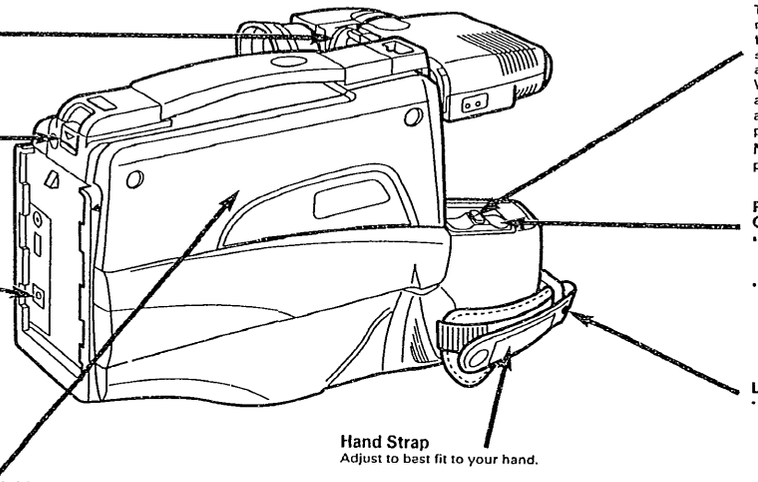
"PLAY" Button
Used for playback of tape recorded in the SP mode.

NOTE: When the camera/recorder is in record/pause (stand-by) mode, pressing and holding this button will play the tape at normal speed.

Diopter Control
To use the electronic viewfinder without eyeglasses on, turn this control for your optimum focus adjustment.

"BATTERY" Release Lever
Releases the battery attached to the video camera/recorder.

"DC IN 9.6V" Jack
When using the AC adaptor/charger (provided) or the car battery cord (optional), connect this jack and the "DC OUTPUT" of the AC adaptor/charger or the car's cigarette lighter socket.



"REC/PAUSE" Button
This button is used to control the camera/recorder. When the "POWER" switch is set to the "CAM" position, pressing this button starts the tape to begin recording. "REC" appears in the viewfinder.
When this button is pressed again, "II" appears instead of "REC" and the tape stops and the camera/recorder enters the record/pause (stand-by) mode.
NOTE: This button may be also used to display a still picture during playback mode.

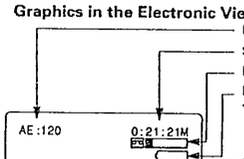
Power Zoom Switch/"TRACKING" Control
- This switch performs zooming electrically.
  "W": Picture becomes wider gradually.
  "T": Picture becomes telescopic gradually.
- Used when playing a tape recorded on another VCR. Adjust for best picture. Ejecting the cassette returns the tracking to the normal position.

Lens Cap Tab
- Place the lens cap on this tab when you are ready to record a scene. The tab also prevents the lens cap from swinging around on its cord.

Hand Strap
Adjust to best fit to your hand.

Cassette Holder
Press "STOP/EJECT" button to open the cassette holder. Be aware of the cassette direction when inserting.
NOTE: Power source must be connected to open the cassette holder.

Graphics in the Electronic Viewfinder



- Displays the shutter speed according to the lighting condition.
- Shows linear time counter.
- Displays the remaining tape in seven steps.
- Indicates the battery condition;
  - When the battery is fully charged, "▭" is displayed. When the battery is very near empty, "▭" starts blinking. You should find an alternative power source or recharge the battery.
- Appears when the index signal is recorded automatically.
- When the "REC/PAUSE" button is pressed, if a cassette without its safety tab is inserted, "TAPE" blinks for several seconds. When the "REC/PAUSE" button is pressed, if no cassette is inserted, "NO TAPE" blinks for several seconds.
- Indicates the date/time during the record or record/pause (stand-by) mode. You can record the time and/or date with object when recording.
- Indicates the operating modes;
  - "REC" appears during the record mode.
  - "◀◀" appears during the rewind mode.
  - "▶▶" appears during the fast forward mode.
  - "II" appears during the record/pause (stand-by) mode.
- Displays the zoom position for several seconds when the power zoom switch is operated.

TROUBLESHOOTING

Your camera/recorder is a highly sophisticated instrument. It has been carefully checked and adjusted at the factory under the most rigid quality control and inspection systems. However, should problems develop, check the following points and take necessary corrective measures.

INSERTING OR REMOVING THE CASSETTE

Symptom	Check Point & Correction
Cassette holder cannot be opened when you press "STOP/EJECT" button.	• Connect the power source.
Cassette cannot be inserted into cassette compartment.	• Load cassette in direction indicated by arrow on cassette.
	• Cassette window must be toward outside.

CAMERA RECORDING

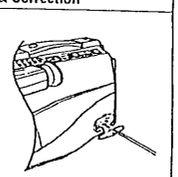
Symptom	Check Point & Correction
Picture does not appear in the viewfinder.	• Remove the lens cap.
	• Set "POWER" switch to "CAM" position.
The camera/recorder can not go into the recording mode, even when "REC/PAUSE" button is pressed.	• The cassette has had the erase prevention tab removed. Stick a piece of cellophane tape over the erase prevention hole or select a different cassette.
	• Set "POWER" switch to "CAM" position.
Auto-focus does not operate.	• The camera/recorder is pointed at an object on which it is difficult to focus automatically as shown on page 22.
	• Auto-focus does not operate if the wide angle or telephoto lens is attached.

BATTERY CONDITION

Symptom	Check Point & Correction
The "▭" indication in the electronic viewfinder flashes to indicate battery is discharged.	• Try another battery or charge the battery.

NO OPERATION IS ACCEPTED

Symptom	Check Point & Correction
Power is not turned on and no button operations are accepted.	• Remove the power source, and after about one minute, push the reset switch gently using a toothpick, etc. until you feel a click. Since this erases the date, time and other customer prefferrred features, reset them again.

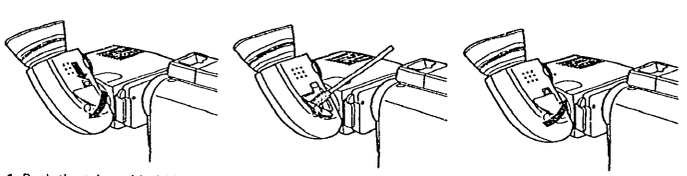


PLAYBACK OF PRE-RECORDED CASSETTE

Symptom	Check Point & Correction
"PLAY" button cannot be engaged.	• Set "POWER" switch to "VIDEO" position.
No picture appears on television screen when "PLAY" button is pressed. (TV is connected to the camera/recorder by using RF converter unit.)	• Set the television to the camera/recorder channel (3 or 4) depending upon the selected channel on the RF channel select switch of RF converter unit.
Interference on playback picture.	• Adjust the tracking using "TRACKING" control (power zoom switch).
	• When you see the playback picture on your TV, adjust fine tuning knob on television set to obtain best picture.
	• The pre-recorded tape is EP or LP recording. This camera/recorder is for use in SP recording only.
Picture bends at the top of TV screen.	• TV receiver is of older type. It needs to be modified to work properly with camera/recorder.
	• Tape is damaged. Try another cassette.
Color of your TV screen is too bright, too faint or change.	• TV set has VIR circuit. Turn it off during playback.

■ CLEANING THE INSIDE OF THE ELECTRONIC VIEWFINDER

If dust or foreign matter adheres inside the viewfinder, clean it by using the following procedure.



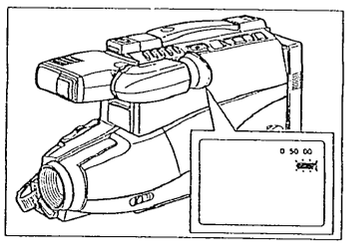
1. Push the tab and hold it, then open the cover.
2. Clean the picture tube face and lens.
   To prevent scratching, use a soft non abrasive cloth, swab or lens cleaning paper.
3. Close the cover.

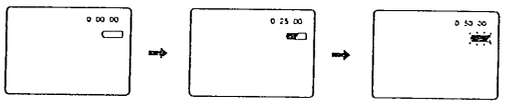
CHECKING THE BATTERY

When the " " indication appears in the viewfinder and flashes while the camera/recorder is being operated with a battery (provided), it indicates that the battery charge is low. Charge it or replace it with a charged battery.

NOTE: When the camera/recorder is turned on, the battery level indicator " " is displayed in the viewfinder indicating the condition of camera/recording battery. When the battery is fully charged, " " is displayed.

After several minutes, the symbol will change to " ". When the battery is very near empty, the symbol will change to " " and start blinking. You should find an alternative power source or recharge the battery before continuing to use your camera/recorder.

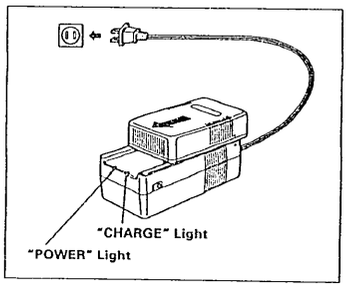




CHARGING THE BATTERY

1. Plug the AC adaptor/charger power cord into AC electrical outlet.
2. Attach the battery to the AC adaptor/charger. Align the reference arrow on the battery with that of AC adaptor/charger and push the battery flush with the AC adaptor/charger and slide it in the direction of arrow.

   NOTE: You must remove the DC cord from the AC adaptor/charger to charge the battery. If the DC cord is connected, "CHARGE" light will not light.
3. The "CHARGE" light will be lit while the battery is accepting a charge, and will go out when the battery is fully charged.



NOTES:

1. The time required for charging the battery is approx. two hours.
2. When fully charged, the battery should supply approx. 90 minutes of operating time (depending on how much you use zoom and pause).
3. Charge the battery after use and store it at normal room temperature.
4. Recharge your battery at least once every six months. The battery is a lead-acid battery. This battery tends to discharge if not used for an extended period of time. If the battery is stored for a extended length of time without being recharged, you may not be able to recharge it.
5. A battery charged after being stored for a long period may not supply power for the specified time. Additional rechargings will help restore the battery's operation time.
6. The battery should be charged at a temperature of 50°F — 86°F (10°C — 30°C) to prevent damage.
7. Do not operate the battery at temperatures below 14°F (–10°C) or above 95°F (35°C). The battery may be damaged if operated at temperatures above 122°F (50°C). Operation time will decrease at extremely low temperatures.
8. After repeated chargings and use, the operation time will gradually decrease. When operation time becomes too short to be useful, it is time to replace the battery.
9. If "CHARGE" and "POWER" lights on the AC adaptor/charger start flashing, remove the battery and then reattach it. If after several attempts both lights continue to flash, this means your battery cannot take a charge and must be replaced with a new one.
   The "CHARGE" light will not light if a hot battery is attached to the AC adaptor/charger. Attaching an extremely hot battery to the AC adaptor/charger is not recommended; it should be allowed to cool down before being attached.
10. Do not short the battery's terminal.
11. Do not attempt to disassemble or modify the battery. There are no user serviceable parts inside.
12. Throwing the battery into a fire or exposing the battery to excessive heat — over 149°F (65°C) could be hazardous.
13. Be sure to set the "POWER" switch to the "OFF" position before removing the battery.

ATTENTION:
The product that you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its useful life under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

Pb

HITACHI

VM-1700A(U,C) TK No.6407E TOKAI Consumer Electronics Division

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